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May 2018

Vol. 13 No. 5

News from the College of Veterinary Medicine at Kansas State University

Eagle flies again after lead poisoning

Dr. James Carpenter watches as Spar the eagle ventures back into the wild after two months of treatment and rehabilitation from lead poisoning.

Thanks to diligent action by concerned landowners, local law enforcement, staff of the Milford Nature Center, and veterinary intervention at the Veterinary Health Center, a bald eagle diagnosed with lead poisoning has regained its health and spread its wings to fly again through the skies over the Tuttle Creek River Pond near Manhattan.

"This eagle was brought to us on Jan. 11" recalled Dr. James Carpenter, professor of wildlife and zoological medicine in the Veterinary Health Center (VHC) at Kansas State University. "It was depressed, emaciated, not eating and unable to fly. The prognosis for regaining its health appeared poor. The bird was determined to be a 4.5-year-old male."

After the bird was admitted to the VHC, the staff performed a physical examination, took radiographs and obtained a blood sample to evaluate its health status.

"We then administered fluids, antibiotics, and placed it in a quiet, warm environment with food and water," Dr. Carpenter said. "We also performed a diagnostic test to evaluate this eagle's blood lead level. Lead levels in bald eagles are a significant problem and a high percentage of the eagles that are found 'down,' are diagnosed with lead toxicity. In one raptor center in Minnesota, 25 percent of the eagles submitted had toxic levels of lead in their blood. Birds acquire lead most commonly by consuming dead animals that were shot by lead bullets or from other sources of lead contamination."

Dr. Carpenter explained the protocol for treating birds with lead poisoning.

"We began chelation — using medications that reduce the lead levels — and between that and intensive supportive care, the bird's condition improved," Dr. Carpenter said.

Dr. Carpenter said the treatment of the eagle was a great educational opportunity. He was assisted on this case by Dr. Rob Browning along with three fourth-year veterinary students and a veterinary technician. The students named the bald eagle Spar, and after five days of treatment, Spar was sent for rehabilitation to the Milford Nature Center, northwest of Junction City, Kansas (about 25 miles away). Recovery of this bird was a team effort between the VHC and the Milford Nature Center.

"We have kind of a multi-tiered process," explained Vanessa Avara, assistant director at the Milford Nature Center. "We bring [animals] in and have them inside the building for intensive care — or baby care if they are orphans — then we take them outside to an enclosure and let them get used to the weather and all that."

At the end of March, Spar was taken to Tuttle Creek where he was released.

"With every animal that we have come through rehab, release is our goal," Avara said. "It isn't always the outcome and to get that eagle out there is awesome, because I have had two eagles die in my hands from lead poisoning in the last three months."

"Seeing that bird successfully released after two months of care was incredible!" Dr. Carpenter added.

Dr. Steve Ensley, a professor in the CVM, serves as a toxicologist for the Kansas State Veterinary Diagnostic Laboratory. He oversaw the diagnosis of blood samples from the bald eagle.

"In the eagle, the highest concentration we had was around 1,000 parts per billion. In one of the last samples, we had — when it was not showing clinical signs — was right around 200 parts per billion, so that's a significant decrease due to the treatment that was initiated. It demonstrates a good response to the therapy, and the reason why the animal wasn't clinically affected anymore."

Abaxis gifts hit $1M for CEVBD

Dr. Roman Ganta meets with Dennis Bleile and Ken Aron from Abaxis.

Steady support from Abaxis has now added up to $1 million. For each of the last four years, Abaxis has presented the Center of Excellence for Vector-Borne Diseases (CEVBD) with a $250,000 gift. The CEVBD is an interdisciplinary research center in the CVM that has a mission to combat vector-borne diseases with a focus on pathogenesis, surveillance and disease prevention.

"Working with Roman is one of the great pleasures and honors of this job," said Ken Aron, chief technology officer at Abaxis. "The Center of Excellence for Vector-Borne Diseases is in the forefront of research on issues influenced by urban areas that are increasingly encroaching on animal habitats, and can become unsuspecting starting points for vector borne diseases."

Newly 'Distinguished'

Dr. David Poole, professor of kinesiology, and anatomy and physiology, was selected as one of three professors at Kansas State University for its highest faculty honor: University Distinguished Professor. His discoveries have helped define how oxygen is transported from the lungs to be used by tissue mitochondria.

Grant supports options for canine pain relief

Dr. Butch KuKanich, Dr. Kate KuKanich and Dr. David Rankin.

A research team from the CVM asked the question: Is there a way to improve pain control in dogs?

The team consists of Dr. Butch KuKanich, professor of veterinary clinical pharmacology, Dr. Kate KuKanich, associate professor of small animal internal medicine, and Dr. David Rankin, clinical associate professor of veterinary anesthesiology.

Together they are seeking options for canine pain relief and have recently received a $25,000 pain research grant from the American Veterinary Medical Foundation (AVMF).

Already the team has identified a drug formulation to control mild to severe pain in dogs via oral administration once to twice daily. The team found methadone administered orally to dogs when combined with a pharmacokinetic enhancer produced prolonged effects in dogs.

Previous to their discovery, the poor absorption and short duration of opioids in dogs have resulted in inconsistent analgesia after oral administration.

"Other drugs such as nonsteroidal anti-inflammatory drugs [NSAIDs] are not always effective, may not be well tolerated in older dogs or dogs with organ dysfunction and occasionally produce serious adverse effects," stated Dr. Butch KuKanich "Our initial results are very promising, but with the abuse of opioids today, we not only want a formulation that works in dogs, but one that will not contribute to consequences of inadvertent drug exposure or drug misuse in humans."

Student receives equine scholarship

Kudos to third-year veterinary student Kate Rigby. She is now a two-time recipient of a $1,500 Winner's Circle Scholarship presented by the American Association of Equine Practitioners' Foundation, Platinum Performance and The Race For Education.

Kate was a recipient of this scholarship in 2017 and has just been selected for a 2018 scholarship.

"I am very fortunate to have received this scholarship over the past two years," Kate said. "Applying the funds directly to the loan amount I have accumulated to reduce the amount of interest and overall principal has proven financially beneficial."

Kate said the support of the American Association of Equine Practitioners and Platinum Performance has confirmed that equine medicine values veterinary students and has influenced her decision to become involved with the organizations in the future.

Kate Rigby, class of 2019.

"My goal is to become board certified in equine internal medicine, and these scholarships will certainly help me reach my goal of specialization through both financial and educational assistance," Kate said.

The Winner's Circle scholarships, managed by The Race For Education, are intended to help ease the financial burden of a veterinary education by offering second- and third-year students at each of the American Association of Equine Practitioners' 39 full or full-affiliate student chapters.

Tanzanian guests enjoy visit to CVM

Dr. Richard Samson, Victor Ishengoma and Ally Baholela examine a cheetah at Sunset Zoo.

For eight weeks, the CVM has been home to two students and one faculty member from Sokoine University of Agriculture (SUA), Tanzania.

These visitors traveled to Manhattan as part of the OIE Twinning Project, which has partnered the SUA College of Veterinary Medicine and Biomedical Sciences with K-State.

Ally Baholela and Victor Ishengoma are two top students from the fifth and final year class in their program. Dr. Richard Samson, the faculty member from SUA, has spent the majority of his time observing in the equine section.

CVM News Ticker

Congratulations to Dr. Justin Kastner (center), associate professor in the Department of Diagnostic Medicine/ Pathobiology, who has been chosen as the 2018 Outstanding Young Alumnus for the College of Agriculture at Kansas State University. He teaches graduate and undergraduate courses on the Manhattan and Olathe campuses and through Global Campus. Michael Burns and Keith Bryant, ag alumni board members, presented the award.

Dr. Neala Boyer presented, "Body Condition, Weight and its impact on Disease in Dogs and Cats," at the K-State Olathe Careers and Cases in Veterinary Medicine Lecture Series on April 25.

Drs. Manuel Chamorro and **Cynthia Bell** presented about the care of food producing animals to a group of fourth-graders on April 30. The Lyon County Farm Bureau hosted the event, "A Day at the Farm," at the Emporia fairgrounds.

Dr. Philine Wangemann, University Distinguished Professor, has agreed to review grants and attend the AUD (Auditory systems) study section in Washington, D.C., in June.

Dr. Cindy Bell gave a short presentation in April to the student chapter of the ACVP on common diseases of backyard poultry and how to obtain an appropriate "flock history" from the owner.

lifelines is published monthly by Marketing and Communications in the College of Veterinary Medicine, edited by Joe Montgomery, jmontgom@vet.k-state.edu. More stories at: www.vet.k-state.edu/lifelines/1805.html

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