As we near the end of the year, I’m excited to share our accomplishments: the inauguration of the new Intensive Care Unit and the continued progress of our Enhancement and Expansion Project, which will transform clinical and visitor space.

Equally important, our Clinical Trials Office continues to enroll patients on an ongoing basis. These clinical trials underscore the ever-important need for evidence-based medicine to develop effective diagnostic tools and medical therapies. The knowledge gained from these studies can significantly advance best practices and often results in exchanges with human medicine.

In this issue of Update for Veterinarians, we feature recent VMC research on equine insulin resistance and clinical trials on feline diabetes and canine dermatology. See our inside pages for information on how to recommend these and other trials to your clients.

Please also join us in welcoming two new faculty members to Small Animal Surgery—Dr. Nina Kieves and Dr. Vincent Wavreille (see page 4).

These are just a few of the recent developments at the VMC. I’m happy to answer any questions you may have about these and any of our services.

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Low-Level Laser Offers Hope in Canine Dermatitis

Veterinarians often see cases of canine acral lick dermatitis (ALD), or lick granuloma, a condition characterized by a dog’s compulsive leg licking to ease pain or itching. While no hard data is available with regard to ALD’s prevalence, the condition is not uncommon and can cause significant hair loss, as well as hard, plaque-like lesions with secondary infections. While veterinarians typically use conventional therapies such as systemic antibiotics and oral anti-compulsive medications to treat ALD, these therapies alone often do not readily address the lesion.

“ALD is one of those diseases that we as specialty providers usually don’t see until it’s really bad,” said Dr. Amy Schnedeker, resident in the dermatology and otology service, and who developed the research as her master's thesis project.

Dr. Schnedeker is conducting a study to determine whether a class 1 low-level laser, or low-level laser therapy (LLLT), a new treatment in human and veterinary medicine, might be more effective when used with conventional therapy for the treatment of ALD. “While reports suggest LLLT’s success in treating hair loss and arthritis in dogs, they are largely anecdotal, which is why evidence-based studies of LLLT efficacy are needed,” said Dr. Lynette Cole, associate professor and head of the dermatology and otology service.

In the clinical trial, both groups will receive the conventional therapy—an oral antibiotic and anti-anxiety medication for four weeks—however, the treatment group will receive the laser therapy while the control group will receive a “sham” laser with the laser turned off. The laser and sham therapy will be performed for a total of 10 visits—three days a week for two weeks, then two days a week for two weeks. Dr. Schnedeker estimates that adding LLLT to conventional therapy will reduce licking behavior by more than 50 percent as compared with the treatment without low-level laser therapy.

Clinical Trials

Supported by the James Comprehensive Cancer Center and the Center for Clinical and Translational Sciences at Ohio State, the CTO houses a dynamic team of researchers whose work learns from and contributes to the knowledge of disease in human health as well, and collaborates with Nationwide Children’s Hospital to exchange knowledge about diseases found in children and veterinary patients.

For more information on how you and your clients can participate, please see all our current recruiting trials at vet.osu.edu/research/recruiting-clinical-trials.
Clinical Biomarkers a First Step in Feline Diabetes

Diabetes mellitus (DM) is a common disease among domestic cats and is diagnosed only after clinical signs appear. At that point, however, managing DM requires twice daily insulin injections, which is difficult, costly, and can lead to life threatening complications. In many cases, cats with DM are euthanized because the treatment overwhelms the owner’s capabilities.

While physicians in human medicine can use glucose-based screening tests to diagnose and treat DM at the pre-clinical stage, such tests in cats “are inaccurate and impractical because they result in stress-induced hyperglycemia, which can confound the results,” said Dr. Chen Gilor, assistant professor of internal medicine. “It’s difficult to implement even simple therapies when you cannot identify your target population. It will help a lot of cats if we can make the early diagnosis.”

Dr. Gilor is currently enrolling healthy and diabetic cats in a study that would eventually lead to development of a clinically reliable test for diagnosis of pre-clinical diabetes. He will be conducting a series of stimulation tests in order to find early clinical biomarkers unique to diabetes. In the future, he said, this development will help veterinarians target preventive measures to slow or prevent the progression from pre-diabetes to diabetes in cats at risk.

Candidates for this study are diabetic cats between 7-13 years of age that were previously treated with insulin. The study duration is three days. All tests and procedures in the study are free of charge; an incentive of $475 is offered at the end of the testing.

To enroll, please have the owner contact the CTO office directly at 614-247-8706 or 614-292-4559, by email at CVM-ClinicalTrials@osu.edu, or at vet.osu.edu/vmc/clinical-trials.

Research

Understanding Equine Insulin Resistance

Insulin resistance (IR) affects anywhere between 10 to 60 percent of certain equine populations, according to Dr. Teresa Burns, clinical assistant professor of equine internal medicine. Moreover, its effects in the body—often likened to “pre-diabetes,” a condition in humans that precedes the onset of Type II diabetes mellitus—has been associated with laminitis, a common crippling disease of the tissue connecting the coffin bone to the hoof capsule.

The most commonly used IR tests have not been evaluated well for their accuracy nor their consistency. To address this concern, Dr. Burns and her team recently completed a study in 12 healthy, adult light-breed horses, comparing the accuracy of these four commonly used tests: the basal serum insulin and glucose concentration; the oral sugar test (OST); a combined glucose-insulin tolerance test (CGIT); and the insulin-modified frequently sampled intravenous glucose tolerance test (FSIGTT), in which blood samples are collected much more frequently. The latter is a gold standard test for equine IR.

The research team found significant variation in how the tests classified the horses: the FSIGTT identified seven horses as IR and five as insulin sensitive (IS), or normal; basal insulin and OST identified all as IS; CGIT classified three horses as IS and nine as IR when analyzed according to one set of parameters, but 10 horses as IS and two as IR when analyzed with different diagnostic criteria.

“I would be hesitant to call a horse normal based on a normal test result,” said Dr. Burns. “It was a wake-up call.”

Burns noted that because these tests currently lack sensitivity in detecting IR, the team will be looking for a better validation of the screening tests.

To learn more about Dr. Burns’ research, contact her at 614-292-6661 extension 2, or burns.402@osu.edu.
Welcome New Faculty

Nina R. Kieves, DVM
Assistant Professor
Small Animal Surgery—Orthopedics
Dr. Nina Kieves, a 2009 University of Minnesota College of Veterinary Medicine graduate, joins Small Animal Surgery after completing her post-doctoral fellowship in canine performance medicine and surgery at Colorado State University. She completed her residency in small animal surgery at Iowa State University in 2014. Prior to her residency she completed her rotating internship at the University of Minnesota and worked as a surgical intern at a veterinary orthopedic and sports medicine practice. She is certified as a canine rehabilitation therapist (CCRT). She has received numerous awards for her work, including the Mark Bloomberg Resident Research Award in 2015. Her clinical interests lie in sports medicine and rehabilitation, and treatment with minimally invasive techniques via arthroscopy, cranial cruciate ligament disease, hip dysplasia, elbow dysplasia, and tendon injuries.

Dr. Kieves’ research interests include clinical studies aimed at improving animal health and quality of life related to musculoskeletal problems, and treatment of cruciate ligament disease.

Vincent Wavreille, DVM, MS
Assistant Professor
Small Animal Surgery—Soft Tissue/Oncology
Dr. Vincent Wavreille is a 2006 graduate of the University of Liege in Belgium, where he completed a rotating internship. He completed a surgical internship in the U.K at Fitzpatrick Referrals, and in 2011 began his residency in small animal surgery here at the VMC, where his caseload included soft tissue, oncologic, orthopedic, and neurologic surgery. He has an academic degree in microsurgery. Most recently he completed his surgical oncology fellowship at University of Florida in Gainesville, FL.

Dr. Wavreille’s research interests include invasive oncologic procedures, surgical neuroendocrine diseases, limb sparing procedures, and microsurgical techniques. He has received several recognitions while at The Ohio State University, including the VMC Service Award and the Resident Clinical Teaching Excellence Award.

Transitions and Departures

Dr. David Wilkie is serving as the Interim Chair of the Department of Veterinary Clinical Sciences.

Dr. Brian Scansen, Cardiology and Interventional Medicine, has left the VMC to join the faculty of Colorado State University.

Online CE Program

The Nephrology Series

Upcoming sessions:

November 17: Managing Proteinuria
December 15: Potassium Aberrations in CKD
January 19, 2016: Kidney Stones in Cats

For more detailed information, please go to vet.osu.edu/vet-expert-express-nephrology