



# Update

FOR VETERINARIANS

November-December 2014

## Clinical Trials: The Leading Edge of Veterinary Medicine

As a teaching and research hospital, the Veterinary Medical Center (VMC) offers the option of clinical trials as a treatment for your patients. Our Clinical Trials Office (CTO) continues to serve as the largest and most comprehensive center in the country for clinical trials involving client owned animals.

The CTO provides assistance to researchers working to advance the diagnosis and treatment of diseases in veterinary patients, and in many cases, to enhance the health of humans as well. The CTO is supported by both the James Comprehensive Cancer Center and the Center for Clinical and Translational Sciences at Ohio State. The

CTO also works with Nationwide Children's Hospital to oversee clinical trials of novel therapies in veterinary patients with diseases similar to those found in children, such as osteosarcoma.

Most of the clinical trials provide treatment for veterinary patients at a significantly reduced cost or no cost for the owner. Examples of diseases for which there are open clinical trials include cancer (lymphoma, mast cell tumors, transitional cell carcinoma), osteoarthritis, disc disease and heart disease, among others.

To see all of our current recruiting trials, please visit us at [vet.osu.edu/research/recruiting-clinical-trials](http://vet.osu.edu/research/recruiting-clinical-trials).

## From the Director



In this issue of *Update for Veterinarians*, we have highlighted three clinical trials taking place at the Veterinary Medical Center, in oncology, surgery and equine orthopedics. At the time of this writing, we have 30 trials that are currently recruiting participants. We encourage your clients to make use of this option for leading-edge treatments whenever appropriate.

I'm also pleased to announce that we have broken ground on Phase One of our Enhancement and Expansion project! Although the official ceremony took place on September 5, we actually began construction at the Hospital for Companion Animals in August. In Phase One we will be building a new Intensive Care Unit and constructing a building for faculty and administrative offices, which will free up much needed space at the hospital.

Phase One is due to be completed in August 2015. We are very excited to be able to offer your clients and patients an enhanced and updated physical environment, especially for emergency and critical care. And rest assured that our faculty veterinarians and technicians will continue to provide the best in specialty diagnostics and treatments as well. Please feel free to contact me with any questions that you may have about the hospital construction or any of our services.

The Ohio State University Veterinary Medical Center—**Columbus**  
601 Vernon L. Tharp St., Columbus, OH 43210

Hospital for Companion Animals:  
614-292-3551

Hospital for Farm Animals and Galbreath Equine Center:  
614-292-6661

The Ohio State University Veterinary Medical Center—**Dublin**  
5020 Bradenton Ave., Dublin, OH 43017  
614-889-8070

## A Potential New Therapy for Mast Cell Tumors

Accounting for up to 20 percent of all skin tumors in dogs, mast cell tumors (MCTs) can develop in all ages and breeds. MCTs range from small, benign tumors on the surface of the skin to deep, large tumors that have the potential to spread to lymph nodes and other organs.

Generally, these tumors are treated with surgical removal and, in some cases, radiation therapy and chemotherapy. More recently, small molecule tyrosine kinase inhibitors such as Palladia (toceranib) and Kinavet (masitinib) have been successfully used to treat this disease.

However, there remains a proportion of canine MCT for which current treatments are not effective. The Clinical Trials Office (CTO) at the VMC is currently enrolling patients in a study to assess the response to therapy in dogs with MCT following the administration of a monoclonal antibody directed against a protein called KIT.

KIT is protein expressed on the surface of healthy mast cells that is critical for normal growth, development and survival. MCTs also express KIT on the cell surface, and in many cases, the KIT is known to drive the uncontrolled growth of this cancer. An antibody that binds KIT has

the potential to prevent KIT signaling into mast cells and thereby help control the growth of MCT, as well as other tumors in which KIT plays a role.

This antibody directed against KIT has already been tested in healthy dogs; other than mild nausea and vomiting during the time of administration, no additional side effects were noted over a 28-day period of observation post treatment. However, a significant decrease in the mast cells in the skin was noted, suggesting that the antibody did have the ability to affect mast cell survival.

Dr. Cheryl London, the medical oncologist leading this study, said, "We are very encouraged by the ability of this novel antibody to affect the survival of normal mast cells in the skin. Given the critical role of KIT in most MCT, we hope to see good activity of the antibody against these tumors."

If you have a patient with a diagnosed MCT, adequate organ function and an estimated life expectancy of at least eight weeks, please contact the CTO at 614-247-8706 or 614-292-4559, email us at [CVM-ClinicalTrials@osu.edu](mailto:CVM-ClinicalTrials@osu.edu) or visit the CTO website at [vet.osu.edu/vmc/clinical-trials](http://vet.osu.edu/vmc/clinical-trials).

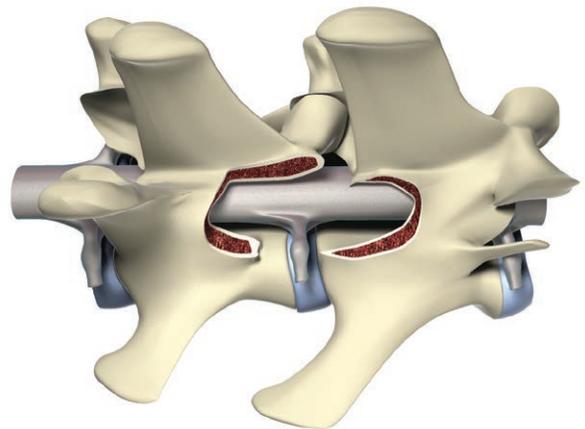
## Safer Spinal Surgeries

Spinal decompression surgery such as hemilaminectomy is a common procedure in small animal neuro/orthopedic surgery. Soft tissue dissection required for the approach is similar to that of the human spine, traditionally using a combination of sharp dissection with a scalpel blade and electrocautery.

The Clinical Trials Office is currently involved in a canine study of the Harmonic Aries Blade by Ethicon Inc. The harmonic blade, developed for use in human spinal surgery, allows the surgeon to cut and coagulate with a single instrument, reducing the bleeding that occurs during surgery.

Although bleeding during a hemilaminectomy is rarely a problem for dogs, there can be substantial blood loss in humans. But even with dogs, small amounts of blood can significantly slow down the surgery and impair the ability to see the spinal cord during the procedure. The researchers believe that the use of the harmonic technology can decrease potential complications and make the surgical approach easier without any adverse effects on patients.

Dr. Bianca Hettlich, assistant professor of small animal orthopedics, is conducting the study along with Dr. Laurie Cook, assistant professor (clinical) of neurology. Dr. Hettlich is thrilled with the positive results thus far.



"The exciting thing about the study is that we are testing something that will be tremendously helpful for human spine surgery," she said. "But it also will allow us to have access to the technology for cats and dogs and even large animals, so all species ultimately will have a benefit!"

Most dogs with acute disc extrusion at a single disc space are candidates for the study. Even though planned enrollment of dogs into the study is difficult because most present as emergencies, Dr. Hettlich and her team are happy to evaluate and enroll any scheduled or emergency patients as long as they fulfill a few criteria.

If you are interested in learning more about the study or the inclusion criteria, please contact Dr. Hettlich at [hettlich.1@osu.edu](mailto:hettlich.1@osu.edu) or Dr. Cook at [cook.1094@osu.edu](mailto:cook.1094@osu.edu), or call the CTO at 614-247-8706.

# Treating Equine Osteoarthritis, Desmitis and Tendonitis with Stem Cells

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Regenerative medicine has received a great deal of attention from the biomedical research community. In the equine community, this translational research has been focused in particular on osteoarthritis. Stem cell products have also shown promise in the repair of injured tissues such as tendons and ligaments.

Dr. Alicia Bertone, professor in the department of Veterinary Clinical Sciences and surgeon in the Galbreath Equine Center, recently completed a study at the VMC evaluating a minimally processed stem cell product targeted at equine musculoskeletal injuries, including superficial digital flexor (SDF) tendonitis, suspensory ligament desmitis and joint osteoarthritis. The research team wanted to find out whether the treatment could regenerate healthy tissue in injured areas through the stimulation of cellular and extracellular matrix repair.

“There is much hype about stem cells in the equine industry and we hoped to show if there was a benefit, using an experimental study design with control treatments to compare to,” said Dr. Bertone.

Horses were enrolled in the study if they had evidence of moderate to severe osteoarthritis (OA), desmitis or

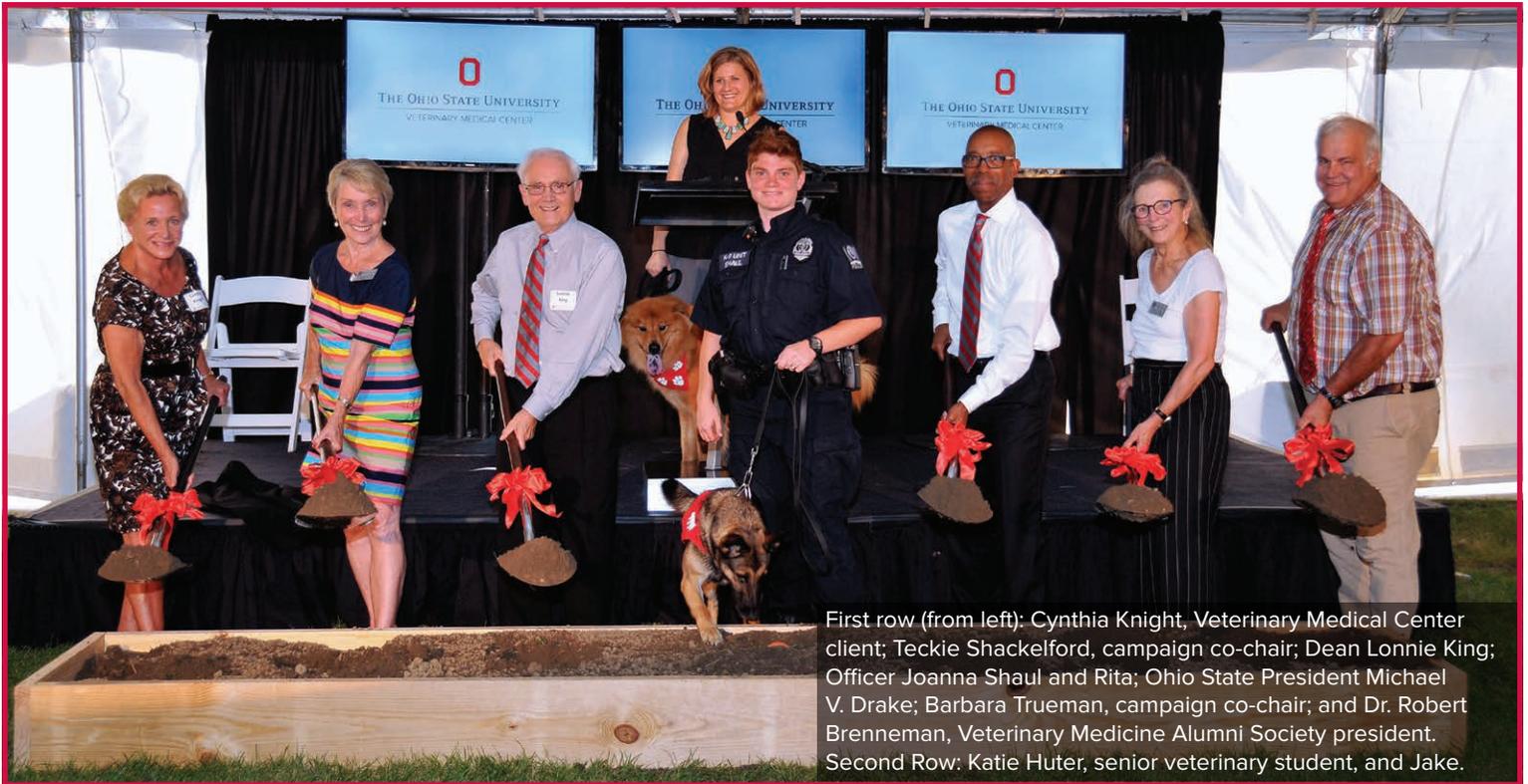
tendonitis of the SDF. They were treated with intra-articular or intralesional administration of stem cells for osteoarthritis or desmitis/tendonitis respectively.

“The potential benefit of regenerative therapies is that they may promote healthier cartilage or tendon in addition to producing pain-relieving effects,” said Dr. Bertone.

To evaluate the effectiveness of the treatments, Dr. Bertone and her team used physical examinations, hematologic evaluations, evaluations of joint fluid, change in lameness including response to flexion or pressure, force plate kinetic analysis, edema scores, limb circumference measurements, pain evaluations, pain-free range of motion, ultrasound and radiographic evaluations, and owner evaluations.

The results of the study, released in October 2014, were positive, and Dr. Bertone has announced plans to offer this treatment to clients at the VMC. Please contact the Galbreath Equine Center at 614-292-6661, ext. 2, for an appointment to determine if your patients could benefit from such a therapy. Since these are living cells, the order will be placed in advance and cells will arrive the morning of injection.





First row (from left): Cynthia Knight, Veterinary Medical Center client; Teckie Shackelford, campaign co-chair; Dean Lonnie King; Officer Joanna Shaul and Rita; Ohio State President Michael V. Drake; Barbara Trueman, campaign co-chair; and Dr. Robert Brenneman, Veterinary Medicine Alumni Society president. Second Row: Katie Huter, senior veterinary student, and Jake.

## VMC Breaks Ground!

The official groundbreaking ceremony for the addition to the Hospital for Companion Animals took place on Friday, September 5.

At the ceremony, College of Veterinary Medicine Dean Lonnie King and Ohio State President Michael V. Drake discussed the importance of veterinary medicine to public health, research, collaboration with human medicine and the overall health of pets. Event emcee Katie Huter, a Class of 2015 veterinary student, also shared her story.

“These changes are absolutely necessary for our students’ education, and for our veterinarians to continue doing the work they do,” she said.

Drake, King, Campaign Co-Chairs Teckie Shackelford and Barbara Trueman, VMC Client Cynthia Knight and Alumni Society President Dr. Rob Brenneman each lifted shovels to launch the renovation’s first phase. They were helped by Rita, a K-9 dog from The Ohio State University Police Division.

The \$30 million Enhancement and Expansion project calls for construction and renovation of a total of 57,000 square feet of space. It will take place in four phases. Funding for the project is provided through donations and loans.

Phase One of the construction, due to be completed by the fall of 2015, includes a newly renovated Intensive Care Unit and a clinical office building with faculty and administrative offices and conference space. Two new dog-walking areas and a courtyard will also be added.

The entire Enhancement and Expansion project includes:

- Expanded client reception area and lobby
- Additional exam rooms
- New surgery suites and improvements to existing areas
- New clinical areas for several veterinary specialties

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The Ohio State University College of Veterinary Medicine  
The Ohio State University Veterinary Medical Center  
The Ohio State University Veterinary Medical Center at Dublin