Ohio State Leads in Joint Replacement Surgeries
by Melissa Weber

Joint replacement can relieve pain in dogs with degenerative joint disease that isn't responding to medical management. Ohio State is a leader in total hip replacement and has recently introduced total knee replacement for dogs. The most common indications for total hip replacement (THR) surgery are hip dysplasia and arthritis. The outstanding clinical results at Ohio State are due in part to thorough patient evaluation prior to surgery.

"Only one in every four dogs referred for THR will actually go on to surgery," explained Dr. Jon Dyce, orthopedic surgeon in the Veterinary Hospital and associate professor in the Department of Veterinary Clinical Sciences. "Common reasons why this procedure is not indicated include cranial cruciate ligament rupture, pyoderma, neurologic disease, and obesity."

THR in dogs was pioneered in the 1970s by Dr. Marvin Olmstead at Ohio State. The original implant system was designed to be secured using bone cement. Recently, there has been an increase in the use of cementless systems; the implant relies on direct ingrowth of bone into the textured surface of the prosthesis for stabilization. Both cemented and cementless THR are offered at Ohio State using the Biomedtrix implant systems (www.biomedtrix.com).

"Much of the clinical research we've done here over the past 10 years has been geared toward improving surgical outcomes," said Dr. Dyce. "Twice a year we host surgical workshops to teach the latest THR techniques to surgeons from around the world."

Total knee replacement is a more recent development in canine orthopedic surgery. Dr. Matthew Allen, associate professor in the Department of Veterinary Clinical Sciences, joined the faculty in March of 2008, bringing extensive experience with total knee replacement in dogs. Ohio State is now able to offer this procedure. "As is the case with other complex orthopedic surgeries, dogs undergoing total knee replacement benefit from physical rehabilitation, something that is also available at the Veterinary Hospital," said Dr. Allen (vet.osu.edu/4214.htm).

In December 2008, the first total knee replacement was performed at Ohio State by Drs. Allen and Dyce. This surgery was the first in the world to utilize the Stryker Surgical Navigation system in a canine patient.

"The use of this computer-based navigation has been shown to improve surgical accuracy in human patients, and we anticipate similar results in veterinary patients," said Dr. Allen. "This has been a great collaboration with Stryker. We hope to be able to generate the funds needed to purchase the system in the near future." (The referral coordinator can be reached at 614-292-0950.)

Minimally Invasive Surgery in Companion Animals
by Kristine McComis

The Ohio State University Veterinary Hospital has augmented its small animal surgery program with the addition of three new faculty members who specialize in minimally invasive surgical procedures as well as offer expertise in orthopedic and general soft tissue surgery. Minimally invasive surgery techniques used in human medicine typically offer less pain, faster healing, reduced risk of infection or other complications, shorter hospitalization and recovery, and quicker return to function.

Dr. Christopher Adin offers the latest techniques in laparoscopy and thoracoscopy. With laparoscopic surgery, operations in the abdomen are performed through small incisions as compared with larger incisions needed in traditional surgical procedures. Some of the common procedures include laparoscopic-assisted gastropexy, ovariohysterectomy, cystotomy, and cholecystectomy. Laparoscopy is also extremely useful for obtaining abdominal-area biopsies. The hospital has recently invested in new state-of-the-art laparoscopic equipment that improves our ability to offer these minimally invasive surgical services.

Dr. Bianca Hettlich and Dr. Jennifer Au offer arthroscopy for small animal patients afflicted with joint abnormalities. Arthroscopic surgery is considered the best way to visualize the structures within a joint, such as the cartilage, ligaments and joint capsule. Dogs may benefit from arthroscopic surgery with the following common joint conditions: Ruptured cranial cruciate ligament, meniscal injury, fragmented medial coronoid process of the elbow joint, osteochondritis dissecans, biopsies for cancer or joint infection, and arthroscopy-assisted fracture repair, which uses intraoperative fluoroscopy and minimally invasive joint stabilization.

Drs. Hettlich, Au, and service head Dr. Jonathan Dyce also have extensive experience in spinal neurosurgery, which are complemented by the surgical skills of neurologist Dr. Ronaldo da Costa.

Our surgeons are dedicated to using physical rehabilitation utilizing our state-of-the-art canine rehabilitation service.

To refer a patient for any of these services, call our referral coordinator at 614-292-0950. Drs. Adin, Au, and Hettlich can be reached at 614-292-3551.
In the past, little was done to treat cancer in horses beyond surgical excision of a tumor because diagnostic and radiation treatment facilities didn’t exist to accommodate the large-sized patients, and chemotherapy was often cost-prohibitive. Now The Ohio State University Galbreath Equine Center in the College of Veterinary Medicine offers a new focus on equine oncology thanks to collaboration between the equine surgeons, radiation oncologists, and cutting-edge technology available for diagnosis and treatment of tumors.

Ohio State’s Veterinary Hospital is the only clinic in the vicinity that offers Computed Tomography (CT) for horses. The CT scanner is a great diagnostic tool when planning external beam radiation treatment for tumors of the skull, brain, nasal cavity and sinuses, the most common cancers found in horses. When developing a radiation protocol for horses and other oncology patients, Dr. Eric Green, associate professor of Radiology and Radiation Oncology, relies on the CT scanner for the accuracy needed for the best results.

“The CT relays features of the mass in great detail so we can form a treatment plan that will cause the least damage to normal tissues around the tumor,” he explained.

There are fewer than six linear accelerator facilities in the United States that are capable of providing external beam radiation treatment for a large animal, and Ohio State’s Veterinary Hospital has one of them. Dr. Yvonne Elce, assistant professor of Equine Radiation Oncology, relies on the CT scanner to advance the diagnostic capabilities and the technological advancements have been so great over the past 15 years, it is important to upgrade. “The new machine can perform scans in 10 to 20 seconds and reformat the image at any angle or view needed. “We didn’t realize how important CT had become as a diagnostic test until our other one broke down!” said Dr. Valerie Samii, associate professor in the Department of Veterinary Clinical Sciences. “The technological advancements have been so great over the past 15 years, it is important to upgrade.” The new machine can perform scans in 10 to 20 seconds and reformat the image at any angle or view needed.

CT is just one of the important diagnostic imaging tools offered at the Veterinary Hospital. The Diagnostic Imaging service also provides digital X-ray, ultrasound, fluoroscopy, nuclear medicine and MRI. For more information see vet.osu.edu/794.htm

Computed Tomography (CT) Scanner Open House

Wednesday, February 25, 2009
4:30 – 6 p.m.
Veterinary Hospital Auditorium
601 Vernon Tharp Street
(Accessible from Coffey Road)

4:30 – 5 p.m. Welcome and brief presentation
5 – 6 p.m. Refreshments and group tours

Questions? Please contact Kristine McComis, (614) 688-3517 or mccomis.2@osu.edu

New CT Scanner Improves Diagnostic Imaging Capabilities
by Kristine McComis

The Ohio State University Veterinary Hospital recently acquired a new Computed Tomography (CT) scanner, which will advance the diagnostic capabilities and the speed with which we can image patients. Manufactured by GE, the new unit is an 8-slice multi-detector helical CT, which provides clinicians an enhanced level of detail that will make it easier to diagnose disease and therefore provide the most appropriate treatment for the patient involved.

The Veterinary Hospital performs approximately 700 CT scans a year. Although the caseload is primarily small animal, we also have a custom-built large animal CT table that accommodates patients weighing up to 3,500 pounds. The table enables us to image the head, cranial neck and distal extremities of equine and farm animal patients. Because the new machine is faster, in some instances we will be able to perform CT on small animals that are sedated instead of under general anesthesia. Most services in the hospital use CT in the course of diagnosing and treating their patients. The machine is also used in clinical trials and other research that will advance animal medicine.

“We didn’t realize how important CT had become as a diagnostic test until our other one broke down!” said Dr. Valerie Samii, associate professor in the Department of Veterinary Clinical Sciences. “The technological advancements have been so great over the past 15 years, it is important to upgrade.” The new machine can perform scans in 10 to 20 seconds and reformat the image at any angle or view needed.

Clinical Trials Office
The Clinical Trials Office at The Ohio State University College of Veterinary Medicine would like to invite you to visit our web site to find out more about clinical studies for which your patients may be eligible. Currently, we are actively recruiting dogs with mast cell tumors, osteosarcoma, soft tissue sarcomas, and histiocytic sarcomas for a variety of ongoing clinical trials. Your patients may qualify for important studies that could extend and improve their quality of life, as well as contribute to animal health for the future. To find out more, please go to: vet.osu.edu/ClinicalTrials.htm and click on “Current Studies.” If you need more information or have questions about any of our clinical trials, please contact the Clinical Trials Director, Dr. Cheryl London; london.20@osu.edu or 614-292-9554.