Radiotherapy Upgrade Advances VMC Cancer Care

With a recent upgrade to the Veterinary Medical Center’s linear accelerator, radiation oncology specialists can deliver more precisely focused radiation to tumors without affecting surrounding healthy tissue.

Acquired from The James Comprehensive Cancer Center in 2016, the linear accelerator can deliver intensity modulated radiotherapy (IMRT) using a multileaf collimator (MLC), a device containing thin tungsten components, or leaves, that shape high-energy radiation beams to target only tumor cells.

The upgrade involves a reduction in the thickness of the leaves from one centimeter to a half a centimeter, and an increased number of leaves, said Dr. Eric Green, professor of radiology and radiation oncology and section head of the Diagnostic Imaging and Radiation Oncology Services. “This gives us a finer precision and allows us to preserve healthy tissue.”

From the Director

Happy New Year! I hope you enjoyed a joyous holiday with family and friends.

In this issue of Update for Veterinarians, we focus on continued clinical advances in our Integrated Oncology Service and Soft Tissue Surgery Service, along with the launch of the final phase of the Veterinary Medical Center’s $32 million Enhancement and Expansion (E&E) project.

Our radiation oncology team, Dr. Eric Green and Dr. Noopur Desai, describe the clinical benefits of the upgraded linear accelerator and the 128-slice CT scanner, two recent state-of-art additions to the VMC. Both clinicians bring a wealth of experience and strong commitment to patient care. Learn more about their extraordinary teamwork as part of our Integrated Oncology Service.

Dr. Kathleen Ham, clinical assistant professor in small animal surgery, shares how minimally invasive surgery is advancing soft tissue surgery and how it benefits your patients.

Finally, with phase 2 of E&E complete, clients and patients are now experiencing the new and immensely improved lobby and exam rooms within the Hospital for Companion Animals, and the new lobby and reception area within the Hospital for Farm Animals. See the new “creature comforts” being enjoyed by our clients and patients (page three). By the end of March, our exam rooms will have doubled in number. Phase 2 has also given us a new emergency room, now adjacent to our recently expanded and significantly upgraded ICU.

As always, I am happy to respond to any questions you have about these and other developments.

Best wishes to your clients and patients in 2017!
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The machine’s built-in CT scanner, with its image-guided radiation therapy capabilities, can also help better position patients.

“Due to the fact that we can now be very precise with the help of the MLC, as well as onboard imaging, we can safely perform stereotactic radiation therapy, which delivers high doses of radiation in fewer treatments,” said Dr. Noopur Desai, clinical assistant professor of radiation oncology. “This means we can safely treat a number of tumors like brain tumors, nasal tumors and osteosarcoma.”

The team uses sophisticated software to formulate the treatment plan. The plan is sent directly to the machine, which then programs the linear accelerator to deliver it. The technology can immediately identify any differences needed in positioning and make adjustments prior to the treatment. The treatment planning software is the same used at The James.

Each year the Radiation Oncology Service sees approximately 125 patients, of which nearly one-third are eligible for IMRT. The VMC is one of a few facilities in the United States that offers radiation therapy to large animals, and is only one of two facilities in Ohio and surrounding states that offers this type of precision radiation therapy. The VMC is also the only veterinary hospital in the state with two radiation oncologists on site.

The technology upgrade is just one of several VMC efforts that provide patients and referring veterinarians with options for improved cancer treatment. Another is the VMC Integrated Oncology Service, a comprehensive care model that links medical, surgical and radiation oncology service teams, which collaborate on diagnosis and treatment decisions. The VMC is one of only three veterinary teaching and care facilities nationwide to offer such a model of cancer care.

“Because the three specialties are involved from the beginning, we can develop the most appropriate plan with the client,” said Dr. Green. “This approach lets the owner know up front what to anticipate from the initial evaluation to the chemotherapy, radiotherapy, surgery or whatever combination of treatments is deemed best for the patient.”

Finally, the addition of Dr. Desai to the team strengthens the VMC advanced cancer care program, noted Dr. Green. “Dr. Desai’s advanced training in stereotactic and IMRT procedures brings a skill set that will be vital in using this machine to its greatest potential, enabling us to provide the highest level of care for our patients,” he said.

The service team encourages referring veterinarians to call the Integrated Oncology Service in the early stages of their patient’s diagnosis. Please contact client service at 614-292-3551.

New CT Scanner Expands Imaging Capabilities

VMC radiology specialists have an additional state-of-the-art tool as part of their imaging modalities: a 128-slice CT scanner that reduces or eliminates the need for general anesthesia and with technological advances that improve diagnosis and treatment planning.

Thanks to an estate gift by an anonymous donor, the new CT scanner replaces an 8-slice device, according to Dr. Eric Green, professor of Radiology and Radiation Oncology and head of the Diagnostic Imaging and Radiation Oncology Services.

“We’re able to perform the same scans in a dramatically reduced amount of time, and that reduction benefits patients,” he said. “In cases where general anesthesia is required for an advanced study, the condensed time under anesthesia means less risk to the patient.”

In other instances, patients only need to be sedated and the total amount of time they’re in the imaging room can be as little as 15 minutes, from onset of position on the table to the imaging itself.

The new CT scanner also has additional sophisticated capabilities, including 3-dimensional illustrations of patient anatomy, and a dual energy feature, which enables the imaging team to scan with two different energy X-rays to enhance tissue images. The imaging team can also now perform cardiac gating, which allows the capture of select images of the heart between beats. Together, these powerful capabilities provide new avenues for research into diseases.

The team has performed more than 100 CT scans with the new device since October 2016, and can accommodate horses on a new equine table.
Minimally Invasive Surgeries Increase, Benefit Patients

VMC specialists in soft tissue surgery are increasingly using minimally invasive procedures to not simply diagnose, but to also treat patients, eliminating the need for open surgery.

“We want referring veterinarians to know that minimally invasive procedures are an option and that these surgeries offer their patients significant benefits,” said Dr. Kathleen Ham, clinical assistant professor in Small Animal Surgery.

As an example, Dr. Ham notes how the use of scopes to examine abdominal organs has advanced as a minimally invasive procedure. “Today, laparoscopy allows surgeons to project the image on a screen and perform surgical techniques to remove adrenal glands, take out ovaries and testicles, and perform biopsies of the liver,” she said.

“Minimally invasive surgical approaches create less tissue trauma and inflammation, and have become the standard of care for most operations.”

Many studies show that minimally invasive procedures offer patients decreased pain, faster recovery, shorter hospital stays and fewer complications. Equipment that increases magnification and illumination also means surgeons can easily identify vessels. “It’s revolutionized the ways we do some of these surgeries,” Dr. Ham said.

The VMC Soft Tissue Surgery Service team performs 100-120 minimally invasive procedures each year, the most common being laparoscopic-assisted gastropexy and laparoscopic ovariectomy.

VMC Enhancement & Expansion Project

Interactive video wall for clients

Stress-reducing cat waiting rooms

Contemporary reception and waiting areas with fireplace, flat screens, Wi-Fi and kids’ area

Feline exam rooms

An expansive canoped entrance
Small Animal Orthopedics: Major Service, Facility Improvements

Expect two exciting changes this year as the VMC Small Animal Orthopedic Service works to provide your clients and patients broad access to preeminent veterinary orthopedic care.

The first involves the orthopedic clinical team’s continuing efforts to develop a wide range of specialty services, including lameness diagnosis, trauma care, non-emergent orthopedic surgery, rehabilitation, limb deformity, and regenerative medicine. The second change is part of phase 3 of the VMC Enhancement and Expansion project, which entails a renovation of the surgery and anesthesia suites—including the surgery suite at the VMC–Dublin.

“These exciting changes will take our already outstanding orthopedic services to the next level,” said Dr. Roger Fingland, professor, executive associate dean and chief medical officer of the Veterinary Medical System.

Welcome New Staff

Karla Kennedy
VMC–Dublin Manager

We’re excited to welcome Karla Kennedy as the VMC–Dublin manager. Karla is an accomplished veterinary practice manager with more than 10 years of administrative management in veterinary and health care financial environments. Most recently she was practice manager at Eastside Animal Hospital in Jeffersonville, IN, outside Louisville, KY. She has an MBA from Capital University and received her Bachelor of Science degree in Animal Sciences from Purdue University. In her new role, she will oversee VMC–Dublin operations.

Transitions and Departures

Dr. Reunan Guillou and Dr. Laurent Guiot, orthopedic surgeons at the VMC–Dublin, have moved to private practice positions in Southern California.

Mobile Ultrasound Now Available

Need to schedule an ultrasound? Contact our Mobile Ultrasound Service, available to practices within 30 miles of the VMC–Columbus.

Please visit our web page at vet.osu.edu/vmc/mobile for more information or call 614-292-0950 to schedule.