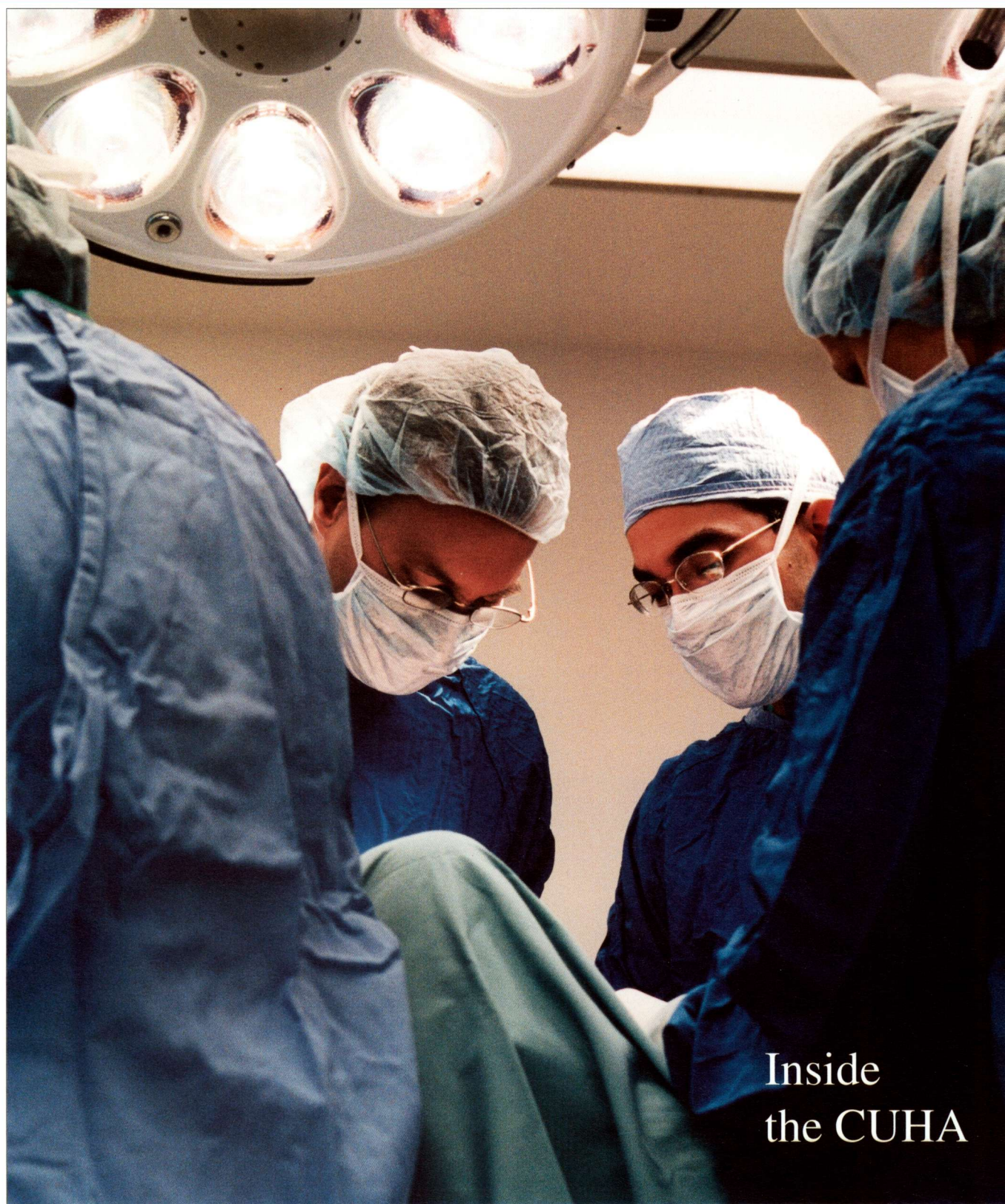


WINTER 2003

CORNELL UNIVERSITY
Veterinary
Medicine

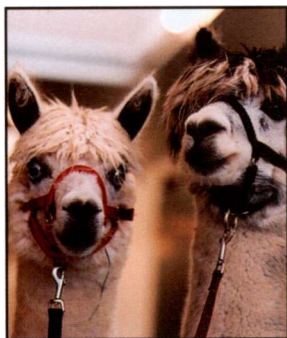


Inside
the CUHA

CORNELL

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SPECIAL

This issue of Cornell Veterinary Medicine begins an exploration of the Cornell University Hospital for Animals, or the CUHA, as it is familiarly called. The scope of this subject is vast, not one story but many. We will feature a few of them in this issue and continue to highlight the hospital in the next issue and beyond.

FOCUS



The CUHA is really one hospital made up of four units: the Companion Animal Hospital, the Farm Animal Hospital, the Equine Hospital, and the Ambulatory and Production Medicine Service. The outstanding clinical faculty, who number about 65, include experts in ambulatory and production medicine, anesthesiology, behavior, cardiology, dentistry, dermatology, emergency and critical care, exotics and wildlife medicine, diag-

CUHA

A LOOK INSIDE

Cornell University Hospital for Animals

nostic imaging, integrative medicine, internal medicine, ophthalmology, orthopedic and soft-tissue surgery, neurology, nutrition, medical and radiation oncology, sports medicine, and theriogenology. Assisted by a dedicated and knowledgeable support staff of 120, they deliver leading-edge patient care 365 days a year.

The hospital is equipped with such marvels as a top-of-the-line linear accelerator that delivers radiation therapy to rival anything available in human hospitals and a Zeiss ceiling-mounted operating microscope that is "one of the absolute best in the whole region," according to ophthalmology associate professor Thomas Kern, and probably the best operating microscope in any veterinary school in the country. Ophthalmology also has the newest generation of phacoemulsification unit for ultrasonic cataract removal; the cardiology service recently acquired a similarly advanced transesophageal echocardiography machine that brings the structures of the heart into very clear view.

Laparoscopic surgery is growing in use in the Equine and Farm Animal Hospitals; CT scanning, even of horses, is routine; and cows regain their muscle strength in a water tank that supports their weight while they convalesce.

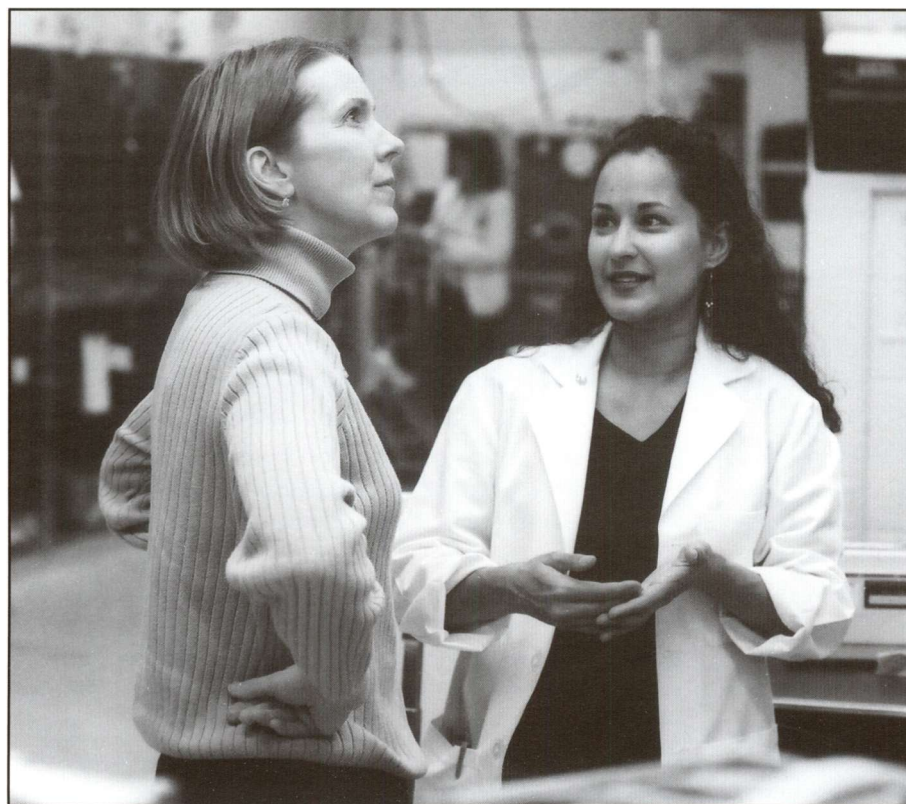
Other equipment remains to be acquired or needs replacing. A new nuclear medicine machine, used for

both large and small animals, will run \$100,000; the fluoroscopy machine will have to be replaced soon at a cost of \$450,000. The radiology rooms need updating, at a cost of \$150,000 each. Anesthesia machines, which are used all over the hospital, cost between \$25,000 and \$40,000. A pool recovery system needed to support horses with severe injuries carries a \$250,000 price tag, and a hyperbaric tank that would assist in healing large animals will cost at least that much. The College has its sights set on acquiring a magnetic-resonance imager, a million-dollar machine that would dramatically enhance diagnostic and treatment capabilities in oncology, neurology, and many other areas. "It's an expensive place to maintain," notes Bonita Voiland, assistant dean for hospital operations. "But we provide great value for the fees we charge, all things considered."

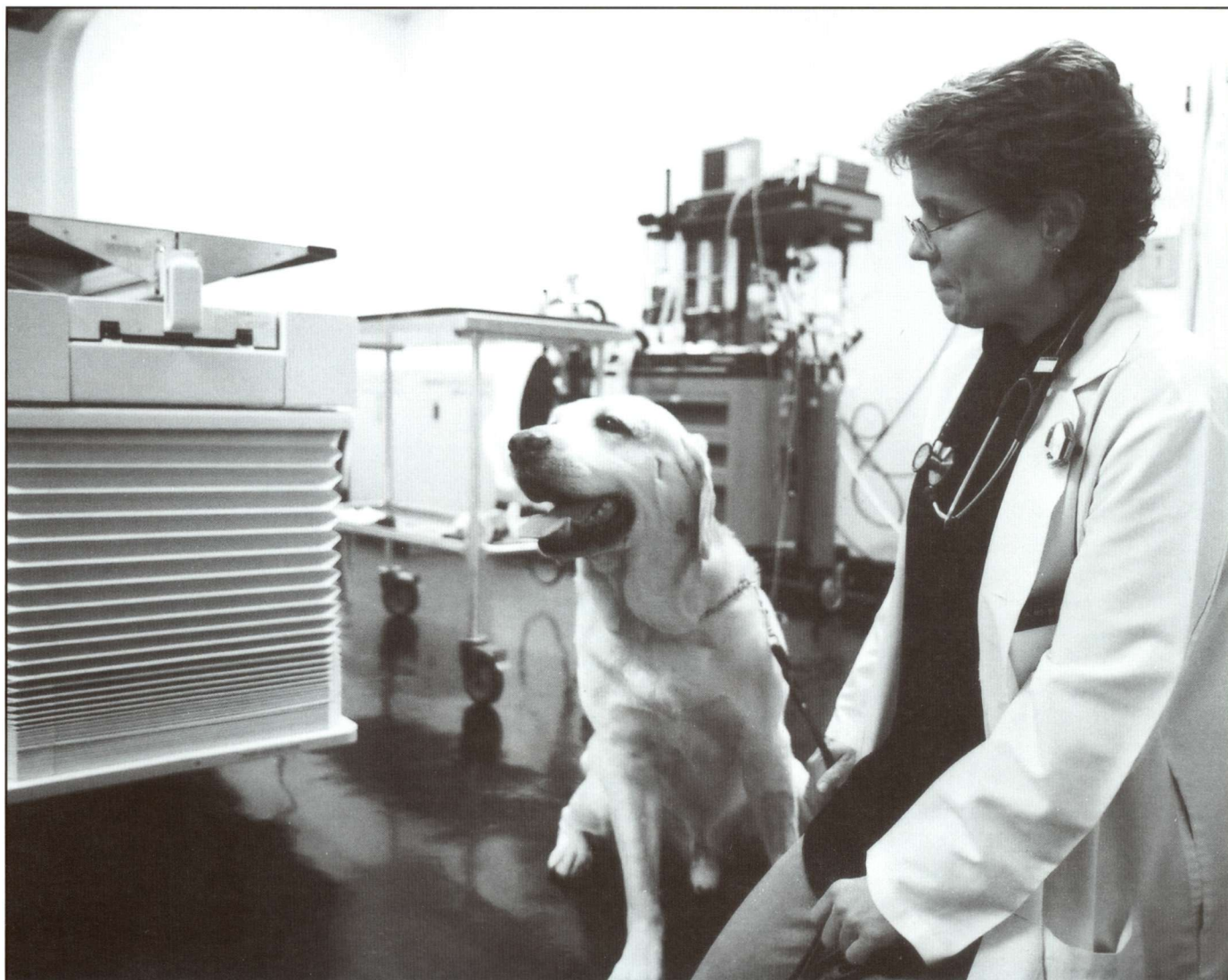
The inpatient and outpatient clinical services of the CUHA see approximately 19,000 patients per year, and the ambulatory service last year saw nearly 40,000 more. Given the size of the staff, those numbers may seem unremarkable when compared to the caseloads of private referral practitioners. But this is a teaching hospital, and time is measured differently when every moment is a teaching moment.

Far from being confined to the lecture halls, wet labs, and seminar rooms, teaching infuses the clinical environment. Inside almost any hub of activity you will find the senior clinician on duty instructing at least one student, technician, and resident, and many times an intern. When two services intersect, as they do in surgery or in imaging, the medical team can fill the room. But everyone has a job to do. "This is a team effort, and the technicians and the students are equally important to patient care as some of the faculty," says dermatology professor William Miller, who is medical director of the Companion Animal Hospital. "Because it is a team effort, there is learning throughout everything. The technicians are teaching the students and the interns in addition to everything else they are doing. We teach everybody, including the owners."

The mission of the Cornell University Hospital for Animals is to provide leadership in patient care, education, clinical investigation, and scientific innovation.



Bonita Voiland listens to Dr. Nishi Dhupa's ideas for enhancing emergency and critical care in the small-animal ICU.



Dr. Margaret McEntee visits with patient Bob before his daily radiation treatment.

While the hospital exists to educate and train the veterinarians of tomorrow, patient care and service are paramount. "The faculty talked at length about whether the term 'education' or 'patient care' should come first in our mission statement for the hospital," relates Voiland. "Without our educational mission we wouldn't be here. But the faculty chose to put patient care first in the statement because, unless our patient care is not compromised, our educational mission cannot be fulfilled." Miller agrees: "Teaching and patient care go hand-in-hand. You can't be a good teacher and ignore your patients."

Balancing the patient's and client's need for services with the need of students to gain broad clinical exposure

requires difficult choices, however. "Here is the dilemma that our hospital is facing in every single service," says Voiland. "If we turn away cases, then the veterinarians who refer to us eventually will find other places to send their patients. If we don't do a good job with the cases once they get here, the referring veterinarians will again find other places to send their patients. If that happens, we will not have enough case material with which to teach our students."

"We have discussions about this at regular intervals," she continues. "We have to grow in order to meet the demand for our services from our referring veterinarians. The twentieth torn cruciate ligament of the week may not have

as much teaching value as the first. However, we need to take in the twenty cruciates in order to get the few we need per week for teaching purposes."

To begin meeting more of the demand, the Companion Animal Hospital recently added a second internal-medicine service, and the possibility of adding another surgery service is being discussed. In terms of space, such growth may not be a problem — the CUHA's state-of-the-art complex covers more than 146,000 square feet — but there are other boundaries to expansion.

"We are trying to grow thoughtfully, in response to the educational needs of our students and our growing caseload," continues Voiland. "If there is a greater demand out there for what

we provide and it fits into our educational mission, we try to meet that need here. But it is true that, when you add a service, it creates pressures in other parts of the hospital."

The greatest pressures are on the "service services" — imaging and anesthesiology. One or both of these services support most of the other services, and both are working at a high capacity. The hospital has eased some of the burden by adding competent and caring technicians in anesthesiology, imaging, intensive and intermediate nursing care, and other critical areas — the technical staff has doubled in the past two years — but recruiting board-certified or -certifiable specialists is another matter. Faculty radiologists are nearly impossible to come by, says Voiland, and it is not much easier to recruit surgeons, for instance.

The shortage of qualified candidates is due in part to the considerable financial advantage of private practice, but Voiland also points to the low number of residency programs available to produce board-certified specialists. What programs there are train a very select few. Cornell's programs each take one resident per year, with the exception of internal medicine, which accepts two.

Bill Miller views the nationwide trend of specialists toward private referral practice with concern. "I think it's fair to say that the development of specialty practice has had a negative impact on case availability to teaching institutions," he states. "It attracts specialists away from academic institutions, so that academic institutions are having trouble filling positions, and that has a negative impact on teaching not only veterinary students but the next generation of specialists in private practice."

For the elite veterinary specialists who serve on the faculty at Cornell, however, the appeal of substantially greater financial reward fades next to the joy of teaching the cream of the veterinary student crop in a stimulating and highly collegial academic environment and a hospital facility that prompts some visitors to exclaim that



The animals sent here are among the sickest of the sick ... animals that others thought would never make it. But miracles happen here all the time.

— BONITA VOILAND



TOP: Ranger, a dachshund, has his pacemaker programmed by telemetry. BOTTOM: Surgery resident Laurel Hays visits Scooter, who had recently undergone successful surgery to remove a brain tumor. The cat, moribund on admission, made an excellent recovery.

they would come here for treatment themselves if they could. To a person, every clinician interviewed for these articles expressed the same love of teaching, the same sense of mission. The future of the profession rests on their shoulders and those of their staff, and all concerned work very, very hard to deliver it in better condition than they found it.

The challenges of keeping up with rapidly advancing technology, changes in the patterns of practice in veterinary medicine and in consumer demand for services, and the high demands of an academic career at a major research university ensure that the CUHA will remain a dynamic enterprise well beyond the foreseeable future. "Our core values and the principles expressed in our mission statement will not change, but in order to fulfill those values, we may do things differently tomorrow than we do them today," says Voiland. "We'll do the best we can, keeping what's good and changing what's not. We'll just keep growing with the organization in response to the needs that are out there and the educational needs of our students, and we'll just keep talking with each other to be sure we're all on the same page."

Whatever the challenges, though, the hospital's faculty, staff, students, interns, and residents deliver exceptional patient care, round-the-clock. "They work hard here. It can be stressful," says Voiland, "but miracles happen here all the time. The animals that are sent here are among the sickest of the sick. Animals that others thought would never make it are brought here, somebody sees something that maybe the tests didn't show before, and, son of a gun, the animal survives as a result, and thrives."

It takes great teamwork to make miracles happen. Though space on the following pages will allow us to introduce only a relative few of the people involved, this issue is dedicated to everyone on the CUHA's world-class team, and to the clients and referring veterinarians whose confidence in our hospital allows us to fulfill our mission.

diagnostic imaging

According to Ned Dykes, chief of the Section of Radiology, there are only two limitations to imaging an animal at Cornell: it has to fit through the doors to the building, and it has to hold still. The second requirement can be met with tranquilizers or anesthesia when necessary. The first might prove too limiting for elephants and giraffes, but Dykes and

his colleagues have gotten the inside story on a multitude of other beasts from large and small domestic species to snakes, exotic birds, big cats, and primates.

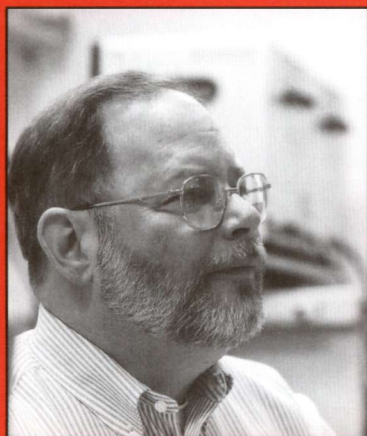
The imaging service is essential to nearly every other service of both the Companion Animal Hospital and the Equine and Farm Animal Hospitals, but the majority of cases are referred from the internal medicine, surgery, oncol-



Radiologist Peter Scrivani discusses CT images with resident Richard Page.

who's WHO

IN DIAGNOSTIC IMAGING



Dr. Ned Dykes

Nathan Dykes, DVM, DACVR
*Lecturer and Chief, Section of
Veterinary Diagnostic Imaging*

Peter Scrivani, DVM, DACVR
*Lecturer in Veterinary Diagnostic
Imaging*

Amy Yeager, DVM, DACVR
Staff Veterinarian

TECHNICAL STAFF

Barbara Chapman, RT (CT)

Molly Copeland, LVT

Anthony DeLaurentiis, RT
Team Leader

Jeffrey Hobbs, LVT

Patricia Homer, LVT

Renea McNeill, LVT

Elizabeth Scott, BS, LVT

ogy, and ophthalmology services. "The patients that we see at the CUHA run the gamut from elective spays and neuters brought in from the local shelters to animals that are critically ill and could die if appropriate treatment is not given quickly," says Dykes. "We get the most difficult cases, the ones that are the most frustrating and the most challenging. It is very rewarding to work in an environment where we have all these specialists in veterinary medicine who work so hard to make the correct diagnosis."

A lot of the problem-solving is done in the imaging service. "Imaging in general is applied anatomy," says Dykes. "My job is to know what's normal and what's not normal, and, if it's not normal, what the likely disease process is that is causing the problem." Radiologists have to know which imaging modality to use, how to get the most informative image possible, and how to interpret what the image shows them.

Medical imaging technology has advanced tremendously in the past 25 years. In parallel to the development of the computer, says Dykes, ultrasound, nuclear medicine, and computed tomography (CT) have become standard techniques at referral and teaching hospitals. While the expense of this technology is high, the information gained is invaluable to reaching accurate diagnoses. Ultrasound has been used at the College for 20 years and CT since 1995, when the CUHA's new building opened for business. A special table has since been built that can support a horse during CT scanning. Full-grown horses do not fit all the way into the CT scanner, which is scaled for humans, but it is now routine to do CT studies of their heads, necks, and limbs. Another custom table is used to position an anesthetized horse for radiographs of the spine or pelvis, which are difficult to obtain with the horse standing.

Scintigraphy, a nuclear-medicine technique, is especially valuable for localizing bone problems that are difficult to pinpoint by physical examination or even radiography, says Dykes. The technique can be used to confirm suspicions of a subtle fracture, for instance, or to

scan for evidence of cancer metastasis. Scintigraphy is performed after injecting radioactive isotopes into the patient's bloodstream; a detector then records an image of the distribution of isotopes in the body. This is informative, Dykes explains, because the isotopes concentrate in tissue in proportion to the level of metabolic activity and the blood supply, which may increase in response to infection, a tumor, or injury. When scintigraphy identifies a "hot spot", that area can be studied in greater detail with other tests. By linking the isotopes to other chemicals that target specific organs, the technique can be used to scan such tissues as the thyroid, kidney, heart, and liver.

What's next for imaging at Cornell? "We would like to acquire the equipment to perform MRI scanning and have this available to all the species we see at the CUHA," says Dykes. "It's definitely on my wish list." But a donor will have to be found to assist with the cost of this million-dollar-plus technology, which provides the best means of imaging structures in the brain, spinal cord, and other soft tissues. Both MRI and CT scans can be used for computerized, three-dimensional planning of radiation therapy in cancer patients using the hospital's new linear accelerator. CT and MRI are also very valuable for the detection of infections, traumatic injuries, and degenerative diseases.

According to Dykes, approximately three fifths of the cases seen at the Cornell University Hospital for Animals last year passed through the imaging service, and their caseload has nearly tripled in ten years. The specialty of veterinary imaging has become more sophisticated and complex. While more veterinarians are pursuing the three-to-five years of advanced training needed to become board-certified in radiology, there are still not enough specialists to satisfy the market demands of both private practice and academic veterinary medicine. The members of Cornell's imaging section — which in addition to Dykes consists of board-certified radiologists Peter Scrivani and Amy Yeager and three residents, seven technicians, and an administrative aide —

work diligently to perform and interpret nearly 10,000 imaging studies each year.

Bonita Voiland, the assistant dean for hospital operations, considers Cornell "blessed" to have such outstanding and dedicated radiologists on the faculty. "However, we need more. There has been an open faculty position in Imaging for as long as I have been here, and the joke is that, if you are a member of that particular search committee, it's a life sentence," she says with a laugh. But Dykes remains optimistic. "We know that our practice philosophy and scope of work will ultimately attract the right person," he says.

For Dykes and his colleagues, teaching the next generation of veterinarians and radiologists and tackling the most challenging cases are their own

rewards. "At this stage in my career," he says, "my satisfaction comes from seeing somebody get it — the light bulb goes on, they see what I'm trying to tell them, I've passed on some little nug-

There are only two limitations to imaging an animal at Cornell: it has to fit through the doors, and it has to hold still.

get, and maybe they will remember it. It comes from seeing the progress of the residents that I've trained and the students who have done work-study projects in the department. When they go on to do internships and residencies in radiology and become board-certified, that's my reward."

"Accuracy has to be instilled as a principle of how you operate," he continues. "Students have to be taught that you don't take shortcuts, because if the study is done wrong, the diagnostic accuracy and everything that follows goes downhill. You have to do it right. That's the overriding theme that I have to promote here in the department. If they get that philosophy of practice here, then I hope that it will rub off elsewhere and stay with them their whole lives."



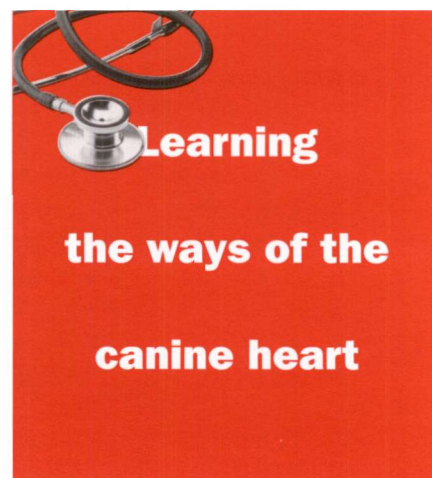
Anesthesiologist Lysa Posner readies a horse for a CT scan.



Princess gets the royal treatment from (L TO R) Shari Renaud-Farrell, Dr. Anna Gelzer, and Mary Ellen Charter. The boxer is being outfitted with a Holter monitor to wear home.

cardiology

Most assuredly, dogs have heart. Brave and dependable, hard-working, loyal, and affectionate, they happily give their all to secure our love and protection. But while they seem to outdo many humans in their capacity for lifelong devotion, the heart that beats in a dog's chest is subject to many of the same physical failings as our own. What a good thing, then, that advanced techniques developed for treating human heart ailments have been adapted for use in dogs at Cornell.



Some major problems that used to require open-heart surgery can now be corrected by less invasive means, according to N. Sydney Moïse, a professor of medicine and the College's cardiology section chief. Valvular pulmonic stenosis, a congenital defect of dogs as well as humans, is a prime example.

Surgery was once the only means to correct this valve malformation, which causes insufficient blood flow to the lungs and can ultimately lead to congestive heart failure. The surgery had a high fatality rate and limited success. Now balloon valvuloplasty is known to be an effective means of treating many afflicted dogs.

The affected valve is made up of three cusps that are supposed to spread open freely like little leaves connected only at their bases. When the leaflets fail to separate during development, the valve is unable to flare open as it should. The problem is resolved by inserting a balloon-tipped catheter into the valve and inflating it to force the leaflets apart. "It literally rips them open," Moïse explains. "We've done many of these and the technique has worked very well."

Patent ductus arteriosus is another congenital condition that affects both puppies and human infants. The condition develops when the fetal duct that has shunted blood from the pulmonary artery into the descending aorta remains open, or patent, at birth. In utero, this shunt detours blood away from the lungs. At birth, however, the newborn's first breath should cause the shunt to close so that blood can flow to the lungs. When the natural mechanism fails, the duct must be closed surgically to prevent heart failure.

Correction of patent ductus arteriosus required invasive surgery until about 15 years ago, says Moïse. After a catheter-guided repair technique was developed for use in humans, the veterinary cardiologist initiated a collaboration with surgeons from the State University of New York Health Science Center at Syracuse in order to learn how to perform the procedure in dogs. The Syracuse team, for their part, benefited

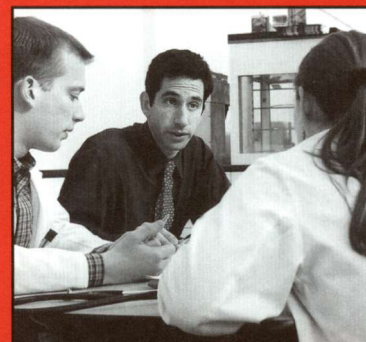
from Moïse's guidance in working with tiny patients. "They liked to come down and help us, because that gave them more experience for treating the babies," she explains.

In the majority of animals that are candidates for the procedure, the open duct can be closed by deploying a coil from the end of a catheter. The coil has hairlike fibers on it that trap blood cells and cause a clot to form around it within about 15 minutes after it has been lodged in the opening between the two vessels. Fibrous tissue begins to grow on the coil, the opening becomes completely occluded, and the problem is solved. Better still, the patient can go home the day after the coil is inserted.

Not all cardiology advances for dogs have involved "catheter surgery". Through a remarkable arrangement with Medtronic, a company that manufactures pacemakers, Moïse has been inserting brand-new pacemakers in dogs for 20 years. The company donates the pacemakers free of charge. "We're using state-of-the-art programmed pacemakers that give us the same options available to people for pacing the atrium or the ventricle," she says. "We use them for patients from miniature schnauzers that faint all the time due to an inherited sick-sinus syndrome to dogs that have heart block because of disease of their atrial-ventricular node." What's in it for Medtronic? "Nothing," she promptly replies. "You make contacts with people who care... I deal with a lot of companies, and I can tell you that there's no company like Medtronic. When we call their technical service with a problem, it doesn't matter when we call them; it doesn't matter that we're veterinarians. They help us. They've been absolutely incredible."

Holter analysis, a 24-hour-long electrocardiogram, is a valuable tool for diagnosing problems that do not manifest themselves during an office visit. Patients are sent home wearing the Holter monitor, which records heartbeats as the animals go about their normal routines. "It's like when you take your car to the mechanic," says Moïse, "and you try to explain and show the problem, but at the time the car is working

who's WHO IN CARDIOLOGY



FROM LEFT: Cardiology resident Romain Pariaut, staff cardiologist Marc Kraus, and intern Amanda McNabb.

Anna Gelzer, DMV, DACVIM (cardiology), DECVIM, Companion Animals (cardiology)
Lecturer in Cardiology

Marc Kraus, DVM, DACVIM (internal medicine, cardiology)
Lecturer in Cardiology

N. Sydney Moïse, DVM, MS, DACVIM (internal medicine, cardiology)
Professor of Medicine and Chief, Section of Cardiology
Adjunct Associate Professor of Pediatric Cardiology, SUNY Health Science Center

TECHNICAL STAFF

Mary Ellen Charter, LVT

Shari Renaud-Farrell, LVT

fine and the problem is hidden. With a dog and an intermittent problem we have a similarly difficult situation."

As is the practice with human patients, clients are asked to keep a diary so that the cardiologists can look at a dog's activity at the time of a cardiac event. The readout is digitized, so every beat can be followed on a computer. "If the dog collapsed and the heart just stopped, we know that we need to put a pacemaker in," Moïse explains. "If the dog is fainting, and we see abnormal beats during the time when the owner noted that the dog fainted, we know that there's an arrhythmia to be managed medically. If the dog collapsed and the heart was fine during that time, then we know to look for some other reason."

Last June the cardiology group acquired a new ultrasound machine that enables them to obtain close-up echocardiographs by passing a probe into the esophagus. "A lot of human hospitals don't have this unit. It's state-of-the-art," says Moïse. "Also, the newest digital system for tissue Doppler is available to us. We're able to store all the images digitally, so if a referring veterinarian wants to see them we can send them over the Internet." The device also allows the clinicians to perform echocardiographs on racehorses before and after they are run on the high-performance treadmill.

After 20 years as the only cardiologist on the faculty, Moïse was able to recruit two of her former residents, Anna Gelzer and Marc Kraus, to the section in November of 2001. "Both are excellent, and we are fortunate to have them. Our clinical coverage is now 100 percent-plus, and we welcome referrals," she says happily. "Now that we have three people we can also do a lot more to expand the teaching and do a better job of it. The three elements of our program — clinics, teaching, and research — all intertwine. Each of these three areas is important and has impact on the others, so it is vital for all of them to be strong."

She is also quick to cite the contributions of licensed veterinary technicians Shari Renaud-Farrell and Mary Ellen Charter. "Our technicians offer



CLOCKWISE FROM LEFT: Dr. Romain Pariaut reprograms a patient's pacemaker while Dr. Sydney Moïse explains the process to Alisa Huckell '03 and intern Amanda McNabb.

huge support," she enthuses. "One of the things I am most proud of about cardiology is that we work as a team. For me, that's a critical pivot point for the entire section. Shari and Mary Ellen are the glue that holds our team together; they are very, very vital."

In addition to her substantial efforts in the clinics, Moïse has maintained an active research program studying an inherited arrhythmia of German shepherds that can cause sudden death in puppies. For 15 years she has collaborated with researchers at SUNY Health Science Center, Baylor College of Medicine in Houston, Columbia University, and the University of California, San Francisco on various projects relating to congenital heart defects that affect both dogs and humans. She also has an arrangement with her colleagues at Baylor that allows her to send a resident to Houston every year for two weeks of training in pediatric cardiology at Texas Children's Hospital.

Now that the section is fully staffed, Moïse is making the most of the opportunity to collaborate with Kraus and Gelzer and resident Romain Pariaut, as well as with other faculty colleagues,

including theriogenologist Dietrich Volkmann and molecular genetics experts Rory Todhunter, Teresa Gunn, John Pollak, and Gregory Acland of Cornell and Karen Vikstrom of SUNY Health Science Center. "We're trying to get to the genetics of the inherited arrhythmias in the German shepherd," she says. Gelzer and Moïse also collaborate with Robert Gilmour, a professor in the Department of Biomedical Sciences, to understand the interplay between the genetic defect underlying the arrhythmia and its effect on the heart and its rhythm. Another project, with Jose Jalife of SUNY Health Science Center, examines the mechanisms of atrial fibrillation. "We also have other research projects that revolve around clinical work," adds Moïse. Among those is a collaboration she has organized with a handful of other veterinary schools to conduct comparative clinical trials of a promising drug treatment for congestive heart failure.

"Instead of dividing the section into a clinical person, a research person, and a teaching person, we are trying to

continued on page 12

**There are four things that
Cornell's licensed veterinary
technicians do not do. They
do not perform surgery, make
diagnoses, give prognoses,
or prescribe treatment. They do just about everything else.**

THE technicians

Walk into any area of the Cornell University Hospital for Animals, from the waiting room at 10:00 a.m. to the ICU at 2:00 a.m., from surgery to the radiation therapy suite to the equine performance treadmill, and you will likely see at least one of Cornell's 65 LVTs busily working with assured and competent dispatch. She or he might be inserting a catheter, administering chemotherapy, updating medical records, assisting a surgeon, positioning an animal for radiography, performing an electroretinogram, or delivering the final act of kindness to an animal that is irretrievably ill.

Regardless of the procedure being performed or the hospital service to which they are attached, there is one activity that all technicians engage in from one end of their shifts to the other: teaching. "The doctors count on the technicians to set up the cases and teach the students all the technical procedures," says Kim Baldwin, LVT, who serves as the hospital's education coordinator. "The students want to be able to place catheters or intubate an ani-



Night nurse Lucinda Bennett updates Kim Baldwin on events in the small-animal ICU.



Judy Urban, LVT reviews an emergency case with students on rounds in the Equine Hospital. Looking on at left is emergency and critical-care veterinarian Vanessa Cook.

Regardless of the service to which they are attached, every technician engages in teaching from one end of a shift to the other.

mal. The technicians spend a large volume of their time teaching the veterinary students these types of procedures.”

All veterinary technicians must graduate from an AVMA-accredited program and pass a qualifying examination in order to be licensed within New York. Baldwin points out that most of the technicians at Cornell are also specialized. “If you are hired into anesthesia, all you do is anesthesia, and if you’re hired into critical care, all you do is critical care,” she says. “So you can imagine that people who have been here eight or ten years are doing a phenomenal job in the care of these animals.”

As education coordinator, one of Baldwin’s primary responsibilities is to work with the hospital’s team leaders

and all new employees to oversee staff orientation and technical development. She also develops in-service educational programs for veterinary technicians and other staff members within the hospital. “We do technically based continuing education, including in-house didactics, lectures, and labs on a diversity of topics such as CPR, fluid therapy, insulin therapy, and blood-gas analysis. We also teach skills like effective communication, stress management, and conflict resolution,” she says. She stays on top of the curriculum by attending national conferences devoted to specialized clinical topics and by maintaining close associations and exchanging information with her counterparts at other major veterinary teaching hospitals.

Such efforts, coupled with the opportunity to learn from some of the foremost clinical veterinary faculty in the world, make Cornell’s LVTs some of the best trained anywhere. “The veterinarians here respect us. We work as a team,” Baldwin asserts. “We are challenged every day by the diversity of cases we see, which makes our jobs very rewarding. There are days when the caseload can be extremely high and the clinicians are counting on us to work very independently on their cases to provide the highest possible standard of care.

There is a great flow within the hospital when all team members work together.”

According to Baldwin, a mere eight to ten years is the average professional longevity of a licensed technician in private veterinary practice. “This has nothing to do with a lack of dedication to the field,” she explains, “but more to do with the lack of adequate salaries within private practice and with inconsistent work schedules. At some point in your career you start looking for a more consistent schedule and a wage that can supplement a family.”

For Baldwin, who spent five years in private practice before coming to Cornell 11 years ago, the Cornell University Hospital for Animals offers LVTs the ultimate opportunity to enjoy career growth and longevity. In exchange, the hospital and its clients and patients receive the exceptional benefit of a strong senior technical force. “This hospital has great leadership, and I think we set the high standards and promote the profession,” she says. “We have technicians who have been here 25 or more years. I think that says a lot about Cornell, about the hospital, and about the care that we can provide for the animals that come into the hospital.”

Cardiology

Continued from page 10

tackle our three missions as a team and build on all of them,” says Moïse. “While each of us has our focus, we would not be able to accomplish our dreams without a common goal. I think it’s critical that we marry research and clinical work, because that is the way we grow in our clinical field. And if you really understand something and know how to do it, you can explain it better as a teacher. Our desire is to interlink and accomplish all three missions and to contribute not just to veterinary cardiology but also to comparative medicine.”

In other words, we humans just might benefit from learning the ways of the canine heart.

small-animal orthopedics



Dr. Robert Hart and his team perform a TPLO on a Labrador retriever.

Eric Trotter pops a slide carousel into the viewer on his desk, looking for a radiograph to illustrate his favorite technique for repairing shattered bones. He soon realizes that he has plucked the wrong box out of the pile he is sorting through for lecture material, but by now he is already absorbed in pointing out images of reconstructions done the old way, neat columns of realigned bone fragments studded with screws spaced scant millimeters apart, kept in place by a four- or five-inch-long metal plate.

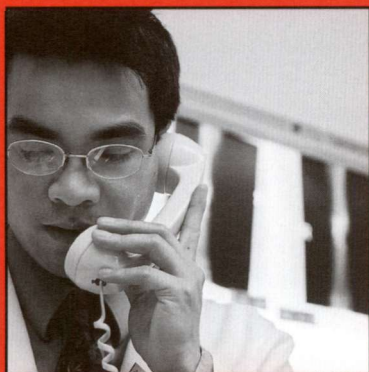
**When their work is
done the lame and
the shattered almost
always walk — and of-
ten even run — again.**

“Now, see, this is an interfrag,” he explains. “This is a complete anatomic reconstruction with a limited-contact plate of an upper-arm fracture. These are lag screws that are compressing those fragments together. They increase your strength about 60 percent. But that takes a lot of exposure, and you’re stripping away those soft tissues around the bone.”

Those surgeries took hours of painstaking reconstruction, which Trotter performed so meticulously that the fracture lines are not even visible on the post-operative films. “But we learned

who's WHO

IN SMALL-ANIMAL ORTHOPEDICS



Orthopedics resident Alexander Aguila

FACULTY

Robert Hart, DVM

Lecturer in Small Animal Surgery

**Rory Todhunter, BVSc, MS,
PhD, DACVS**

*Associate Professor of Small Animal
Surgery*

Eric Trotter, DVM, MS, DACVS

*Associate Professor and Chief,
Section of Small Animal Surgery*

*Adjunct Associate Professor of
Research Orthopedics, SUNY Health
Science Center*

SMALL-ANIMAL SURGERY TECHNICIANS

Linda Caveney, LVT

Sharon Harvey, LVT

Heidi Maynard, LVT

Nicole O'Connell-Avery, LVT
Team Leader

Renee Sparrow, LVT

over the years that you do that at some cost," he observes, "and that all that manipulation and surgical exposure damages the blood supply around the bone and to the bone itself." The result, he found, was that bones sometimes healed very slowly, or, in extreme cases, not at all.

He flips to another slide, a femur that is plated and screwed up and down almost its entire length. "Now we would operate that case in 20 minutes flat — stretch the leg out, align the joints, put the plate in, and screw it to the top and the bottom and don't even *breathe* on anything in the middle," he says emphatically. "It's called biological internal fixation. When you stretch that leg back out to normal length, the soft-tissue envelope around the bone gently pushes those fragments back where they belong. You haven't touched anything in there, so you have not damaged the blood supply to that area. It's absolutely diametrically opposed to the dogma we were taught 20-some years ago, which was rigid fixation, complete anatomic reconstruction of the bone." Some cases still call for rigid fixation, he acknowledges, but the goal these days is always to get in and out as quickly as possible, to minimize post-operative complications.

Trotter, an associate professor of surgery and anesthesiology and chief of small-animal surgery, is one of three orthopedic surgeons on the faculty in CUHA's Companion Animal Hospital. The others are Rory Todhunter, an associate professor who devotes the majority of his time to research investigating the genetics of canine hip dysplasia, and instructor Robert Hart, the newest member of the team. All three fix everything from ruptured ligaments to broken necks. When their work is done the lame and the shattered almost always walk — and often even run — again.

Trotter comes to a series of radiographs showing a dramatic case in point — a dog held together with enough screws and plates to, well, build a dog from scratch. "This is the dog that had his entire body broken. He's been put back together," the surgeon says almost

matter-of-factly. "He's doing great. His owners sent me a photograph of him chasing a ball." Trotter accomplished the entire reconstruction in two surgeries.

Most fractures result from automobile impacts, but genetic predisposition, general wear-and-tear, and obesity also ensure a steady stream of disabled dogs and cats to the orthopedic service. Some of these patients are young dogs, only one or two years old. The service also treats bone-cancer cases and exotic animals that are referred in-house.

Canine hip dysplasia is a common complaint, especially in larger dogs. Once osteoarthritis sets in, as it inevitably does, a total hip replacement may be the answer. Rob Hart is enthusiastic about the benefits of this surgery, and would like to be doing more of them. "A couple of months after surgery, you can look at a dog that's had a total hip replacement and not be able to tell that it has had one — the gait is that normal and beautiful," he says. "The most common comment I hear after we do a total hip replacement is, 'My dog is a puppy again.' So these dogs experience some level of chronic pain that they don't completely communicate to us, and the surgery gives them a new lease on life."

In one sense, at least, Hart says that dogs have a leg up on us bipeds. "Eighty percent of dogs with hip dysplasia in both hips will have a good quality of life after one total hip replacement. Because of this phenomenon, we never replace both hips at the same time. We try to replace the hip that's most uncomfortable. Dogs are skillful at shifting their weight off the painful hip and onto the biomechanically perfect, pain-free hip enough that they very often don't need to have the other one replaced."

In young dogs, hip dysplasia can also be treated surgically before osteoarthritic changes set in. In a procedure called a TPO — for triple pelvic osteotomy — the surgeon cuts the pelvis into three sections and reassembles and plates them at an angle that prevents

the femoral heads from moving out of the hip sockets. "The hip is sort of like a cup and a ball that fits into it," Hart explains. "In hip dysplasia, the ball is loose, so it pops back and forth, in and out. The TPO allows the hip to quiet down and never develop arthritis." Hart says that the procedure has 95 percent or better success in preventing arthritis, provided that surgical candidates are carefully screened. "They have to have a certain angle where the hip pops out and back in again; they can't have any degenerative joint disease or signs of change or abnormality around the hips, and subjectively you have to get the sense that there's a deep socket there, that when you pop it out it pops back in with some resonance," he says.

Hart notes that TPO does not carry hip replacement's small but real risk of intractable infection. In two-to-four percent of hip replacements done in people and animals, bacteria, usually from the patient's skin, find their way into the microscopic surface irregularities of the surgical-steel implant, where they ensconce themselves beyond the reach of antibiotics. When this happens, the implants have to be removed. Dogs can still function in this condition, but with a compromised gait. Beyond its lower infection risk, Hart also likes TPO's preventive aspect. "I'd

rather preserve a normal structure than replace it with an artificial one," he says.

After we do a total hip replacement the most common comment I hear is, "My dog is a puppy again." They have a new lease on life.

— ROBERT HART, DVM

Stifle, or knee, injuries appear to be on the rise, according to Hart, especially in certain retrievers and giant breeds. "Younger and younger dogs are rupturing their cruciate ligaments, and we think it's an inherited problem with the slope to the back of their tibias," he says. Although cats have fewer such problems than dogs, they are not immune to either traumatic injury or the consequences of an over-indulged lifestyle. "We're seeing a lot of fat cats that don't have the condi-

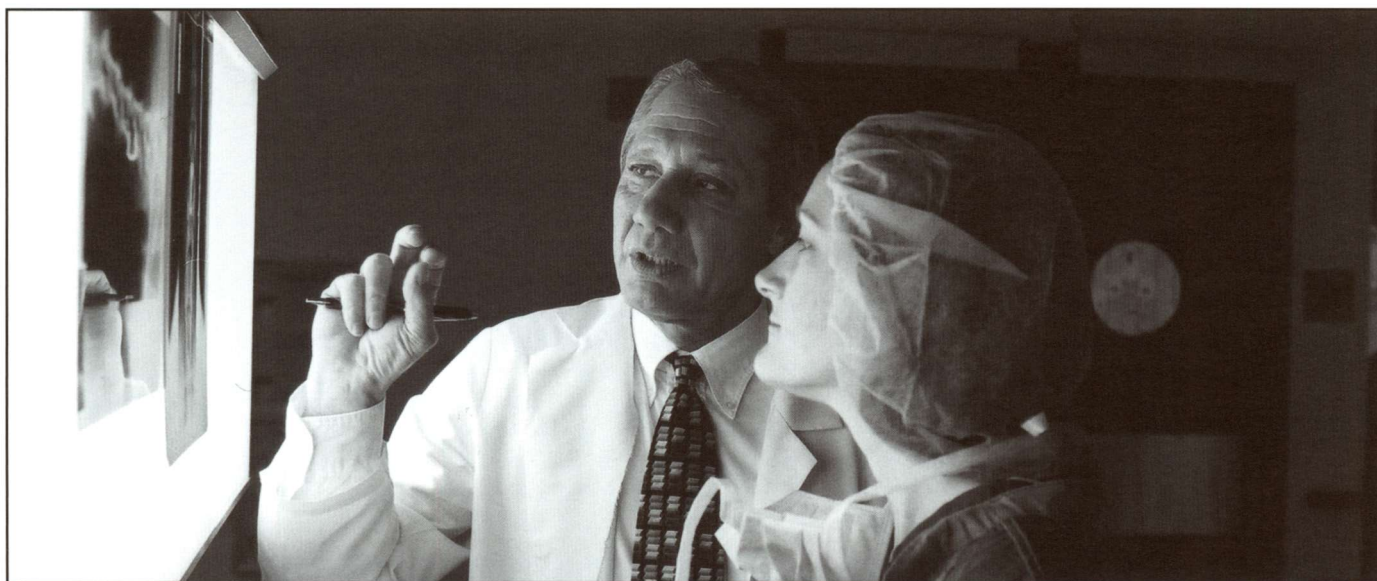
tioning and blow their cruciate ligaments when they jump," he says.

The cruciate ligament bands the stifle joint together and prevents the femur from slipping off the back of the tibia when the joint is bearing weight. Over years of stress, especially in an overweight animal, or in a poorly configured joint with too steep a downward slope toward the back of the tibial plateau, the ligament can weaken and finally snap like an overused rubber band.

The established method for repairing a torn cruciate ligament in a dog or cat is to run a heavy nylon or polyester stitch from the back of the femur around the front of the tibia. Trotter favors this technique, which he has used successfully for 30 years in dogs as big as mastiffs and Great Danes. "I've gotten dogs back to being field-trial champions with that technique, so I have the utmost confidence in it," he says.

In large dogs, Hart prefers to use the tibial plateau-leveling osteotomy, or TPLO, a technique developed in the 1980s and 1990s. Hart has completed the specialized training required for certification to perform the surgery.

Rather than attempting to replace the failed ligament, the TPLO addresses the architectural flaw in the joint that put undue stress on the ligament in the first place. The procedure entails mak-



Dr. Eric Trotter explains a cervical-spinal repair to surgical technician Renee Sparrow.

ing an arcing cut front-to-back through the tibia just below the stifle joint and pivoting the tibial head forward to a prescribed degree along that arc to lessen its backward slope. The head of the tibia is then reattached to the shank, held in its new position by a metal plate. The joint itself is not disturbed during the surgery. Afterwards the femur sits securely on the tibial head, and the joint is remarkably stable.

Hart says that TPLO may offer more protection from osteoarthritis than other techniques. "Every dog that blows its cruciate ligament will get some level of arthritis," he explains, "but the thought is that the TPLO prevents the arthritis formation from getting as severe as it might with our other techniques. Better care has been taken of the biomechanics, the underlying problem that turns on the mechanisms for arthritis. A TPLO seems to take care of a dog that has ten more years to walk on that leg."

Cornell's Companion Animal Hospital is a regional center for spinal repairs, and Hart refers to Trotter as a "spinal surgeon extraordinaire." Both say that if dogs come in with

the ability to feel their toes, over 95 percent of those with ruptured disks or a broken back will walk again after surgery at Cornell. Trotter credits advances in imaging with boosting their very high success rate. "Contrast-enhanced CT scanning has made a phenomenal difference in the accuracy of surgery," he says, "so we can make smaller approaches, which gives you less patient morbidity, less risk of scarring, less post-operative pain, and quicker recoveries. We're getting down to almost micro-approaches, because we can diagnose so much more accurately than we could in the old days with routine myelograms."

Trotter has a long-standing research interest in reducing the sometimes catastrophic spinal-cord compression that can develop in both people and animals due to post-operative scarring. He collaborates with surgeons at the State University of New York Health Science Center in Syracuse, where he is an adjunct professor, to modify surgical techniques and to test membrane materials for use in blocking unwanted healing in the gap where a disk or a tumor has been removed.

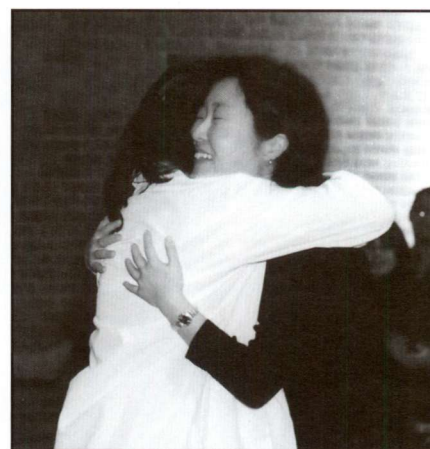
Repair of the cervical spine is an especially delicate business. More prob-

lematic than the surgery itself, Trotter has found, is the potential of the screws used in the repair to back out post-operatively. He explains that regular screws can't be sufficiently anchored without hitting the spinal cord.

After many years of trying every kind of available plate, including some that he had custom-fabricated, he finally found his answer at SUNY Health Science Center. Trotter, who is obviously a great believer in visual aids, pulls one from his pocket. Its small size belies its hefty price. "They're phenomenal, but they cost a lot. That's \$1400, just for that plate," he says wonderingly. "And the screws are \$380 a piece. It's a special kind of locking plate system for cervical spines. The screw actually locks into the plate at an angle, so it can't back out. They're designed for little people, and they happen to fit big dogs, so I use them for wobblers syndrome. That one I'm going to publish, because that's never been done."

Trotter, who published the first description of wobblers syndrome in 1975, remembers arriving at Cornell 30-some years ago to find orthopedic surgeons pinning bones with bicycle spokes. "That's what we had," he explains with a shrug. "Orthopedics has changed a lot."

The Class of 2004 Celebrates the Transition to Clinics



Jon Reis Photography

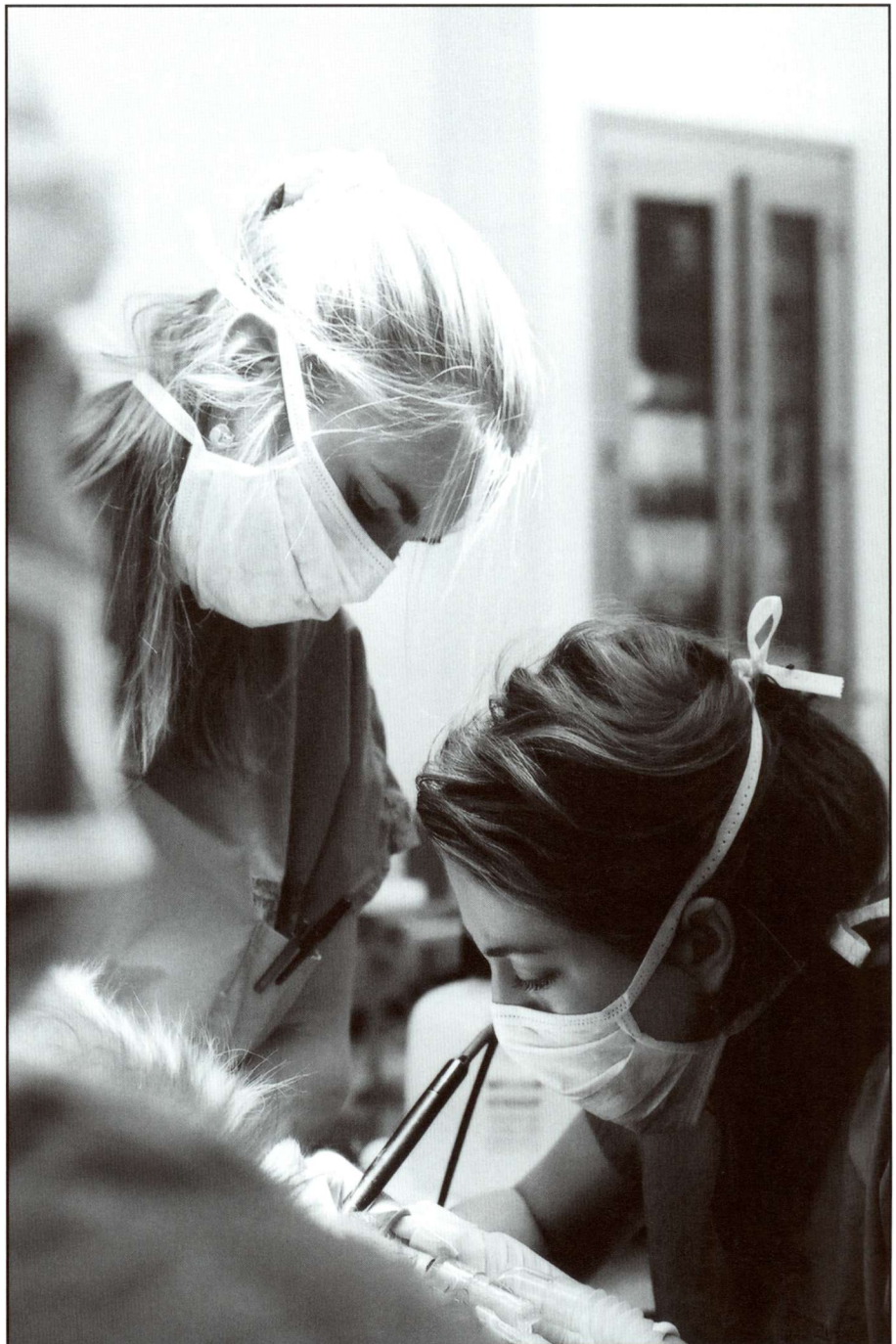
Jini Han helps her sister Janet Han '04 into her first clinician's coat during the White Coat Ceremony held December 7. Pride and joy were everywhere in evidence during the event, which marked the entrance of the third-year students into the final, clinical phase of their veterinary education.

community practice SERVICE

For a newly graduated veterinarian, the move from theory to practice can be more than a little daunting. Even though veterinary students rotate through all the services of the hospital before graduating, most of their time in the clinics is spent following the lead of the faculty clinicians and the residents. The Community Practice Service (CPS) rotation at Cornell offers students a rare chance to experience the realities and responsibilities of independent practice, but with the assurance that a faculty member is standing by to advise them as needed.

Jason Pintar, a member of the DVM class of 2001 who is now a resident on the internal medicine service, found his CPS experience invaluable preparation for real practice. "It's mostly an outpatient service, and clients anticipate being out the door 45 minutes after they enter the building. That takes a lot of getting used to. It's very important to learn how to get a history, examine a patient, decide on what tests to do, and finish with a client in 45 minutes. No other service in the hospital operates that way."

CPS wasn't always so different from the other rotations, however. "CPS started out as a clinician-promoted service with 30-minute appointments," recalls professor William E. Hornbuckle, who assumed responsibility for the service ten years ago. "A faculty clinician sent the student into the room to do a preliminary examination," he continues, "then entered and took over the case. If cases started to back up, the clinician would tell the student, 'start the next case, I'll finish up this one.' I have no interest in that service."



Sonia Amador '03 cleans a dog's teeth under the watchful eye of Dr. Jennifer Rawlinson.



CPS offers students a rare chance to experience the realities and responsibilities of independent practice with a faculty advisor standing by.



Hornbuckle, a revered clinician and teacher who was recently named the Rudolph J. and Katharine L. Steffen Professor of Veterinary Medicine, modified the CPS concept to put the students out front with every case, from examination to diagnosis to treatment to follow-up.

"The word we try to avoid here is 'student,'" affirms Michelle Whittaker, a licensed veterinary technician who has worked on the service for three years. "They're treated like clinicians. We let them sign on the clinician line on the paperwork, and they like it. The CPS rotation is their time to shine before they graduate."

"The decision-making process is very difficult," Hornbuckle explains. "I look at the CPS rotation as an opportunity for clinical students to make those first decisions in an environment where some consultation is available to them. My job is to reflect on those decisions and see if they are within the realm of options that I can call acceptable, even though the student may not do things the way I would do them myself."

As its name implies, the Community Practice Service offers the local community access to primary veterinary care at what is otherwise a tertiary-care facility. Those clients who opt for the Community Practice experience might encounter students from any or all of the current veterinary classes. Even first-year students are involved in the program on a work-study basis as technician's assistants. As second- or third-year students they are given 20 minutes

of the appointment time to develop a patient history and examine the patient. The fourth-year student then takes over, repeats pertinent aspects of the history, and performs another physical examination.

Pintar worked as a technician in CPS for the first three years of veterinary school. "I thought it was fantastic. I had the opportunity to gain a lot of technical experience that I would not have gotten otherwise and to see a tremendous number of routine cases, if you



Joanna Krol '03 behind the scenes in the Community Practice Service. ABOVE: Michelle Whittaker and Jake.

can call them that. We had to move them through quickly, so we got exposure to a lot of things. With the other services in the clinic you focus on a very specific problem that is probably much more complex than anything I could have handled as a first- or second-year student. The CPS cases were something I could handle."

After examining the patient, students decide for themselves whether to use appointment time to consult with one of the faculty clinicians who work with the service, and whether to do so privately or in the presence of the client. In addition to Hornbuckle, who is almost always within reach, Drs. Eric Christensen, Jennifer Matlow, Jennifer Rawlinson, and Paul Maza are on duty at various times, so students have a choice of faculty mentors.

Students spend about 60 percent of their time handling CPS cases while on rotation with the service. In addition, they get hands-on experience with simple dentistry and surgeries under Rawlinson's direction. Each student has one surgery day during the two-week rotation, on which they encounter neuters, spays, lumps, bumps, and lacerations. They also participate in emergency triage and have topic-oriented seminars with various "guest" faculty members. Those seminars cover a wide variety of subjects, such as nutrition, vaccination protocols, and practice management, chosen to give students a realistic view of the variety of experiences they will encounter in general practice.

Whittaker and the other techni-

cians on the service — LVTs Michelle Bezanilla and Jill Eggleston and technical assistant Joby Cowulich — also play an important role in training the students. “For certain things we can aim them in the right direction,” says Whittaker. “When they don’t know what antibiotic to use, they can turn to us. We have a lot of reference materials we can offer them. We might ask, ‘Do you want to run the CBC? Do you think it’s going to help you, do you think it would be nice to have?’ We try to do as much of that as we can, but when it comes to consulting on sick medical cases, we step back and refer them to a clinician.”

Aside from gently nudging students toward sensible decisions about routine testing and treatments, the technicians offer lots of practical help in handling animal patients and performing procedures. “It’s so much fun to watch the students do everything for the first time,” says Whittaker, “to suddenly find a kidney or do their first cystocentesis, and to show them little things like how to open a cat’s mouth.” (There’s no need to pry a cat’s mouth open to give a pill, she says; just tip its head back and the mouth will open.)

For their part, the students are evaluated on their respect for and utilization of the technicians. Student performance in client communication and follow-through gets close scrutiny, too. “It’s important for the students to know that, whatever advice they gave, it either worked or it didn’t work,” says Hornbuckle. The students are required to log everything they do from appointments to telephone interviews to prescription refills. “That log reflects client communication, which is very important and very intriguing. Finding the right way to communicate with each individual is a challenge.”

Pintar found this emphasis on client communication unique to CPS, and valuable. “You don’t get that anywhere else in the hospital, learning how to manage a case medically as well as how to manage the client and keep in touch with them. It’s important to learn that you can’t just see a case and then never talk to the client again. On other services it’s the job of the residents to do

the follow-up. CPS is the only place where students have that opportunity.” And those first client interactions can be an eye-opener for some students. “You can’t work with animals if you don’t like people, because they all come with one,” Whittaker says with a grin.

Hornbuckle may not be visible to the client, but behind the scenes he pores over the cases coming in, mentally filing away volumes of patient data that he can often recall on the spot. “A lot of the clients I know very well,” he says. “I evaluate the appointment schedule and the level of experience of the student, which influences where I make my interaction. There’s always a consultation, but it can vary from repeating the complete physical to reviewing aspects of the history or of the physical.”

Those interactions are highly individual, according to Pintar. “Dr. Hornbuckle has an amazing ability to adapt to each student. He sees their abilities and adjusts his input to those abilities. He’ll let you go as far as you want, or he’ll give you more direction if he thinks you need it.”

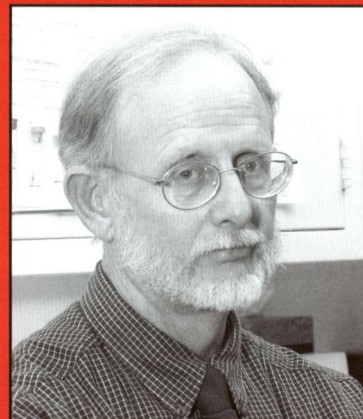
Pintar learned a lot from watching Hornbuckle. “His forte is physical diagnostics, and developing those skills early on was very, very important, because then there was the opportunity to build on that. He was hugely important for me in developing my skills and the way that I approach medicine. He was an incredible mentor.”

Hornbuckle’s vision for CPS was already forming years ago when he worked on the internal medicine service. “I can remember looking through the window,” he says, “watching a student discharge a case and seeing their behavior, alone, talking to that owner with a confidence that I never saw in an examining room, because I was in there with them. Watching these students develop as clinicians is probably the most motivational experience I have.”

“For a lot of the students, CPS is their favorite rotation,” Pintar affirms. “It makes them feel important, and that’s a huge thing, actually. For the first time they’re making decisions, and it feels good to finally get to do things on their own.”

who's WHO

IN COMMUNITY PRACTICE SERVICE



Dr. William Hornbuckle

Eric Christensen, DVM
*Staff Veterinarian and Instructor in
Biomedical Sciences*

Jennifer Matlow Cook, DVM
*Staff Veterinarian and Instructor in
Biomedical Sciences*

**William Hornbuckle, DVM,
DACVIM**
*Rudolph J. and Katharine L. Steffen
Professor of Veterinary Medicine*

Paul Maza, DVM
Lecturer, Biomedical Sciences

Jennifer Rawlinson, DVM
*Staff Veterinarian and Chief, Dental
Hygiene Service*

TECHNICAL STAFF

Michelle Bezanilla, LVT

Joanne (Joby) Cowulich

Jill Eggleston, LVT

Michelle Whittaker, LVT

CWD testing begins

by Roger Segelken, Cornell News Service

Testing for chronic wasting disease (CWD) in tissues from deer and elk has begun in a specially outfitted facility in the New York State Animal Health Diagnostic Laboratory (AHDL) at the Cornell University College of Veterinary Medicine.

The tests are part of a nationwide surveillance effort by the U.S. Department of Agriculture (USDA) to track the spread of the nervous system disease, which has infected deer and elk in several states but has yet to reach New York state. The Cornell laboratory is one of about a dozen nationwide to be designated by the USDA. Tissue samples are sent from a USDA center in Ames, Iowa, to regional laboratories where board-certified veterinary anatomical pathologists examine the samples for evidence of CWD and report results back to the agency.

The tests are being carried out by the state diagnostic laboratory at Cornell in cooperation with the USDA and the

New York State Department of Environmental Conservation (DEC) and Department of Agriculture and Markets.

CWD is one of the family of diseases known as transmissible spongiform encephalopathies (TSE), caused by a folding "error" that changes the shape of normal body proteins called prions. Other TSEs include scrapie, which affects sheep and goats; bovine spongiform encephalopathy (BSE), or "mad cow" disease in cattle; and the human version of BSE, new variant Creutzfeldt-Jakob disease. In its present form, CWD is believed unlikely to affect humans, according to a study by the World Health Organization.

First detected in Colorado in 1967, CWD subsequently appeared in captive herds of deer and elk in Montana, Nebraska, Kansas, Oklahoma, and South Dakota, as well as the Canadian provinces of Saskatchewan and Alberta. More recently, wild deer have been found infected with CWD in Colorado, Wyoming, Nebraska, Wisconsin, New Mexico, and Illinois, prompting bans on the interstate shipment of captive deer

and elk, controlled hunts to kill all deer in selected areas, and widespread monitoring and surveillance by the USDA.

The test for CWD involves microscopic examination of brain tissue from dead animals, thin-sliced and stained with a marker specific for abnormal prion protein, according to Bradley Njaa, DVM, the pathologist in charge of CWD testing in the AHDL. Preserved tissue samples undergo a series of mechanized steps to prepare them for examination. But the final call — as to whether tissue samples show signs of CWD — depends on visual examination under high magnification by a pathologist.

The USDA samples come from deer and elk that died as the result of seasonal hunting and controlled hunts, highway accidents, and state-directed culling of animals. After test results are reported back to the USDA, samples will be stored at the Cornell facility for at least one year.

At present there is no reliable CWD test with living animals, although a test of tonsil tissue, taken from sedated animals, is under development. An eyelid test has been approved to diagnose scrapie in sheep, but a similar test for CWD in deer and elk has yet to be validated.

Baker Institute Dedicates New Building

Crowded laboratories became a thing of the past at the Baker Institute with the November 1 dedication of a spectacular new research facility. The 40,000 square-foot building houses eight spacious laboratory suites with office space, tissue-culture rooms, and inspiring views of neighboring woods and pastures, South Hill, and Cayuga

Lake. The building also added large, centrally located shared-equipment rooms; airy meeting spaces; state-of-the-art kennels; and the 100-seat Thaw Charitable Trust Lecture Theater. The \$12.5 million project was managed by the architectural firm of Gaudreau, Inc.

Before cutting the ribbon on a ceremonial doghouse, University president Hunter R. Rawlings III described the Institute as a "microcosm of the larger university... part land-grant, part Ivy League, a wonderful combination of public and private support" and gave special acknowledgment to benefactors Eugene and Clare Thaw, whose son Nicholas was present for the dedication.

Beagle Cheyenne awaits his cue from owner Lincoln Adams to enter the doghouse newly christened by President Hunter Rawlings. Looking on are (L to R) Baker Institute director Douglas Antczak, Dean Donald Smith, and Joanne Bicknese, DVM '78, chairwoman of the Institute's advisory council.



Charles Harrington/CU Photography



AHDL director Alfonso Torres, pathologist Bradley Njaa, and histology supervisor Joy Cramer in the new laboratory.

State Agriculture Commissioner Nathan L. Rudgers comments: "The introduction of CWD and other TSEs, coupled with the evolution of a global marketplace, has highlighted the need for prion diagnostic centers throughout the United States. I am proud that New York was selected to assist USDA in the development of new TSE technologies

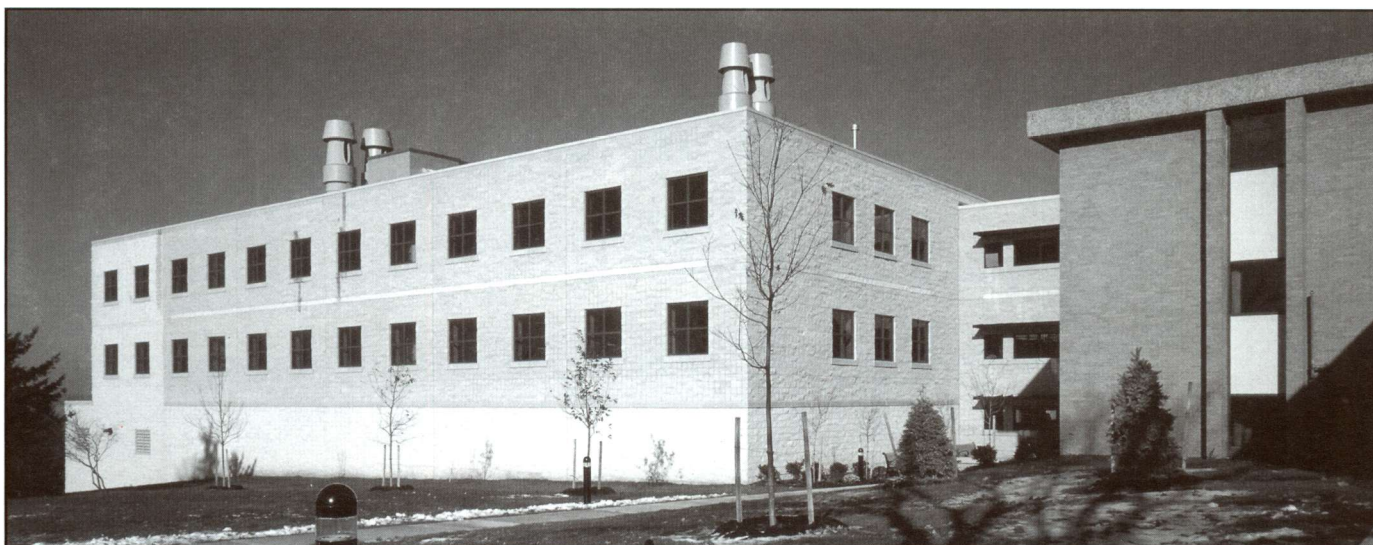
and am pleased to provide a technician to assist the New York State Animal Health Diagnostic Laboratory in protecting the health of our livestock as this country works diligently to detect, control, and eradicate existing and emerging diseases such as CWD."

DEC Commissioner Erin M. Crotty says: "New York state has implemented

an aggressive program to prevent the introduction of chronic wasting disease, including a comprehensive sampling program to check for the presence of this disease in the state's deer herd. We continue to work closely with various partners to keep CWD out of New York state and have committed \$260,000 for Cornell's new testing laboratory, which will greatly enhance our monitoring efforts and help us maintain a healthy deer herd."

"This is exactly the kind of work we should be doing as part of our mission at the New York State Animal Health Diagnostic Laboratory," says laboratory director Alfonso Torres, DVM, PhD. He notes that the AHDL is the only full-service, multidisciplinary animal-disease diagnostic facility in an area covering New York state and New England. "We are dedicated to improving the health of all animals and preventing infectious diseases that impact human and animal health," he says.

Torres adds: "Chronic wasting disease, if it can't be controlled, has the potential for serious consequences for elk and deer populations in the United States and Canada. We welcome the opportunity to do our part."



Founded in 1950, the Baker Institute has compiled a remarkable record of achievement in service to companion-animal health and the advancement of biomedical science. The Institute's development of the canine parvovirus vaccine in 1981 still ranks as Cornell University's most successful patent.

CVM people

FACULTY

The Cornell Board of Trustees approved tenure for four members of the College faculty in 2002. **Ynte Schukken**, DVM, MSc, PhD and **Lorin Warnick**, DVM, PhD, DACVPM of the Department of Population Medicine and Diagnostic Sciences were elected associate profes-

sors with indefinite tenure. **Rodney Page**, MS, DVM, DACVIM, Department of Clinical Sciences, and **David Russell**, PhD, chairman of the Department of Microbiology and Immunology, were elected professors with indefinite tenure.

Professors **Thomas Divers**, DVM, DACVIM, DACVECC and **Normand Ducharme**, DMV, MSc, DACVS, members of the Department of Clinical Sciences, are editors with Tim Mair of a new textbook, *Manual of Equine Gastroenterology*, published by W. B. Saunders.

Other Cornell faculty members who contributed to the text include Susan Fubini, DVM, DACVS, Robin Gleed, BVSc, MRCVS, DACVA, DECVA, Dorothy Ainsworth, DVM, MSc, PhD, DACVIM, Richard Hackett, DVM, MS, DACVS, and Lisa Fortier, DVM, PhD, DACVS.

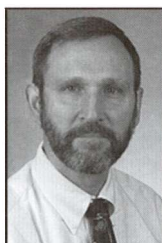
Cameron Knight, BVSc, lecturer in anatomy, and **John Randolph**, DVM, DACVIM, professor of medicine, were named by Cornell's student chapter of the American Veterinary Medical Association (SCAVMA) to receive this year's Teaching Excellence Award. Rebecca Lin '04 presented the awards during the College's "white coat" ceremony on December 7. The SCAVMA award recognizes out-



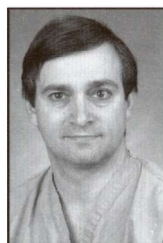
Page



Russell



Divers



Ducharme



Randolph

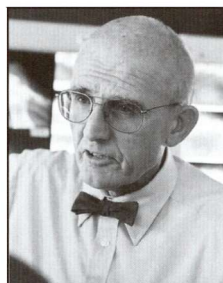
The Celebrated Dr. D

December was an eventful month for **Alexander de Lahunta**.

As he emerged from Lecture Hall II following Friday neurology rounds on December 6, the legendary anatomy professor waded into a sea of students, staff, and faculty that completely filled the first floor of the Atrium and spilled up the stairs to the second floor. The throng had gathered to fête his seventieth birthday — complete with three cakes and gelatin "brains" — and to surprise him with a check to support the neurology program. The funds, which to date total \$34,885, have been raised from alumni, students, faculty, and staff. Students James Hammond '05 and Israel Isenberg '03, class representatives on the Alumni Association Executive Board, spearheaded the fundraising effort and organized the celebration.

In making the presentation, Eric Glass, DVM '95, a neurologist and neurosurgeon practicing in Red Bank, New Jersey, read from a letter he had written three years earlier in successfully

nominating de Lahunta for the American College of Veterinary Internal Medicine's Robert W. Kirk Distinguished Service Award. In the letter Glass recalled first encountering de Lahunta as an undergraduate student when the professor appeared in his animal-science class to lecture on the development of the cardiovascular system in the dog. "That lecture was the single most impressive and enjoyable lecture of my undergraduate years," surpassing lectures by Carl Sagan and Linus Pauling, wrote Glass. In addition to noting the great scope and dedication of de Lahunta's teaching, Glass acknowledged his extensive contributions as a textbook author and clinical observer. "As I enter the profession and represent the younger members of our discipline," he wrote, "it is obvious how far Dr. D has taken



de Lahunta

the field. Almost every article written on small- or large-animal neurology contains a reference to one of his contributions. The breadth of his publications... is phenomenal."

When the check was presented, de Lahunta responded, "I am overwhelmed," and was otherwise rendered speechless.

A few days later, de Lahunta was named an honorary diplomate of the American College of Veterinary Pathologists at their annual meeting in New Orleans. Although world-renowned as a neuropathologist, de Lahunta was self-taught in the discipline and therefore never board-certified as a pathologist. He was nominated by present and former Cornell colleagues Bradley Njaa, Brian Summers, Clive Huxtable, and Beth Valentine and by pathologists Paige Carmichael of the University of Georgia and Jon Patterson, DVM '81 of Michigan State University. De Lahunta, who earned DVM and PhD degrees at Cornell in 1958 and 1963, was a founding diplomate of the sub-specialty of neurology within the ACVIM.

standing faculty members who have made significant contributions to the students' pre-clinical education. The two recipients will be nominated for the national SAVMA award, to be presented at the AVMA Annual Convention in July.

Bud Tennant, DVM, DACVIM, the James Law Professor of Comparative Medicine, recently received the Outstanding Service to Veterinary Medicine Award of the New York State Veterinary Medical Society. Tennant is internationally renowned for his unique and important research into the link between the hepatitis B virus group and liver cancer. In 1999 he was recognized by the American College of Veterinary Internal Medicine with the Robert W. Kirk Distinguished Service Award. In 1986 he was honored by his alma mater, the University of California School of Veterinary Medicine, with their Alumni Achievement Award. Tennant joined the Cornell faculty in 1972 as a professor of comparative gastroenterology after serving for ten years on the faculty at Davis.



Tennant

Reproductive biologist **Alexander Travis, VMD, PhD** was recently appointed an assistant professor at the Baker Institute for Animal Health. Travis's research interests include the compartmentalization of metabolic and signaling pathways in male germ cells, germ cell differentiation, and the development of *in vitro* spermatogenesis; his clinical interests include assisted reproductive technologies in exotic and domestic species and conservation and preservation of genomic diversity in wildlife. A graduate of Princeton University, Travis earned his advanced degrees from the University of Pennsylvania after studying reproductive science as a Ro-



Travis

Black Tie & Tails a Success

The Pierre in New York City was the elegant setting on September 23 for **Black Tie & Tails**, a gala benefit for the College of Veterinary Medicine. The event, a first for the College, drew new friends as well as old to a celebration of the animal-human bond and raised \$675,000 for the oncology program and Baker Institute for Animal Health. Coordinated by Margaret Hendricks, the College's outgoing assistant dean for public affairs, the soiree was the brainchild of Mary Sloane, a long-time member of the College Advisory Council.

The extraordinary corps of volunteers who conceived, planned, and carried out the innumerable details involved included event co-chairs Mary and Dean Sloane, JoAnn and Randy Little, and Elizabeth (DVM '95) and Charles Lynch and honorary chairs Judy Wilpon and Austin Kiplinger. Many others were critical to the success of the evening, including Nancy Schechter, Beth Franz, Cissy Gedinsky, Colleen Chase, Debbie Budd, Dorothy Zweighaft, Lorraine Margolies, Darlene Klein, Dottie Carpenter, Jane Engel, Jay Hyman, DVM '57, Jaynie Spector, Katherine von Keyserling, Pat Giammarinaro, Coppy Holtzman, Martha Ohaus, Joan Gaydos, Margot Tully, Susan Sands, and Lewis Berman, DVM '57.

In addition to dinner and dancing, the evening included both silent and live auctions. The highlight, however, was the Tribute Walk, where Cornell recognized the work of twelve service organizations that promote the human-animal bond. Stationed along the walkway were large panels depicting the purpose of each organization. Representatives of those organizations – both human and animal – were present to greet the guests and tell their stories.

"**Black Tie & Tails** was special," says Hendricks. "As a project, it tapped the real strengths of Cornell – its alumni, leadership, and friends – and focused these on creating a beautiful evening that touched guests' hearts through its tributes to the animal-human bond. BTT celebrated "quality of life" and allowed guests to learn about the College's programs while meeting others whose programs support animals and people. In short, BTT brought many people and organizations together as partners in service – and through these partnerships future creative avenues of service will be developed."

tary International Graduate Fellow at Monash University in Australia. Concurrent with his doctoral studies, Travis worked in mixed practice as a small- and exotic-animal veterinarian.

Robert Weiss, PhD has joined the Department of Biomedical Sciences as an assistant professor of molecular genetics. He graduated *summa cum laude* from Wabash College in Crawfordsville, Indiana and received his doctorate in molecular virology from Baylor College of Medicine in Houston, Texas. Weiss stayed on at Baylor for several months as a postdoctoral fellow in molecular virology before transferring to Harvard



Weiss

Medical School, where he completed a postdoctoral fellowship in genetics. His research concerns molecular mechanisms for mammalian genome maintenance and DNA damage responses.

Irving Rossoff, DVM '44, FACVPT of Taylorville, Illinois, a consultant in new drug development, has published the *Encyclopedia of Clinical Toxicology* (Parthenon Publishing, 2002). Praised by its reviewers as a "monumental," "remarkable," "unparalleled" "tour de force" "that will constitute a citation classic," the 1500-page tome represents a 60-year compilation of material documenting the toxicology of almost 6000 drugs and chemical and environmental toxins.

ALUMNI

endnote



AN OPEN LETTER TO CORNELL'S NEW PRESIDENT

Dear President Lehman:

Welcome back to Ithaca! In this edition of our newsletter, I was encouraged to provide for you a glimpse of the legacy that is the pride of Cornell University's College of Veterinary Medicine.

Ezra Cornell's commitment to animal health ensured that a professor of veterinary medicine was represented as an equal partner with the five other inaugural Cornell faculty members. Professor James Law began teaching veterinary medicine in 1868 and presided 26 years later over the establishment of the first statutory unit on Cornell's campus. Law was responsible for introducing rigor and science into issues of animal and public health in the United States, and has often been cited as the single most influential leader in veterinary medicine in this country.

In response to Liberty Hyde Bailey's 1903 attempt to merge the veterinary college with the College of Agriculture, James Law appealed to President Jacob Gould Schurman that "Veterinary Medicine is closely allied to the Medi-

cine of man; not to agriculture." The Board of Trustees agreed with Law and resolved in 1908 that the two colleges would remain administratively separate. This landmark decision enabled Cornell University to continue its avid pursuit of animal health within the broader domains of comparative medicine and public health.

Though this college's achievements are too extensive to enumerate fully, I offer a few examples: development of the first surgical treatment for laryngeal hemiplegia in horses (1915); establishment of the first serum-free laboratory in the U.S. for the production of hog cholera vaccine (1916); discovery of the efficacy of sulfonamides against intestinal coccidiosis in chickens (1939); discovery of bovine viral diarrhea agent (1946); discovery of leptospirosis in cattle and horses (1949); development of vaccines for infectious hepatitis

(1951), distemper (1956), parvovirus (1979 and 1981), and Lyme disease (1994) in dogs and for Marek's disease in poultry (1970); development of the Coggins test for equine infectious anemia virus (1978); development of a woodchuck model for human hepatitis B virus infection (1979); development of the first national consultation service for feline medicine (1989); participation in developing the first framework reference map of the canine genome (1997); development of the Comparative Cancer Program (1999); determination of the molecular structure of a protein complex, Cdc 42, believed to influence the malignant transformation of cells (2000); the first successful gene therapy for blindness in a mammal larger than a mouse (in dogs, 2001); discovery that estrogen protects experimental mice from cardiac hypertrophy (2002); and designation of the Animal Health Diagnostic Laboratory as one of the nation's regional laboratories for biosecurity (2002).

Among our graduates are the first

man (Daniel Salmon, 1876) and the first woman (Florence Kimball, 1910) to receive their DVMs from an American university; the founders of modern bovine medicine (D. H. Udall, 1901) and of veterinary pathology (Peter Olafson '26); the discoverer of the bacterium *Salmonella* (Daniel Salmon); the developer of prescription pet diets to promote animal health (Mark L. Morris, Sr. '26); developers of numerous poultry biologics for commercial use (Tevis Goldhaft '35 and Hiram Lasher '42), the man who introduced modern veterinary medicine to China (Francis Kwong '39), the first female zoo veterinarian (Patricia O'Connor Halloran '39), and the first female large-animal veterinarian (Jeanne Logue '44). This extraordinary momentum has continued to build as succeeding generations of graduates have shaped veterinary medicine and the biomedical sciences.

Why have Cornell graduates been so successful? Part of the explanation lies in their intellect, their creativity, their passion for excellence, and their diligence. But their success also reflects the value added during their years in Ithaca, where their minds have been challenged by a faculty of distinction who stand on the shoulders of James Law while adhering to his principles of a science-based education.

Cornell is the most respected name in veterinary medicine. Whether in the realms of veterinary education, animal health research, diagnostic medicine, clinical medicine, or public health, the contributions of Cornell's alumni, faculty, and staff have assured our position at the forefront of veterinary and comparative medicine for 135 years.

As you prepare to lead this marvelous institution, please take to heart the advice that Ezra Cornell shouted from the pier to President Andrew Dickson White as he embarked for Europe to recruit those first professors: "Don't forget the horse doctor!"

Donald F. Smith

coming events

FEBRUARY

- 17–20 75th Annual Western Veterinary Conference, Las Vegas, Nevada
- 17–20 Cornell Veterinary Dermatology Conference, Punta Cana, Dominican Republic

MARCH

- 14–16 **95TH ANNUAL CONFERENCE FOR VETERINARIANS, CORNELL**

APRIL

- 5 37th Annual Open House, Cornell College of Veterinary Medicine

MAY

- 24 College Hooding Ceremony
- 25 Cornell University Commencement

JUNE

- 5 Reunion Weekend (3s and 8s)

JULY

- 19–23 AVMA Annual Convention, Denver, Colorado
- 25–27 Feline Conference, Cornell

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Veterinary
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