GENTLE DOCTORS

THE COLLEGE OF VETERINARY MEDICINE HAS SERVED MISSOURI FOR HALF A CENTURY

STORY BY JOHN BEAHLER

THE VETERINARIAN COURTESY OF DR. AND MRS. WILLIAM V. RIDGEWAY

LITTLE HOOCHIE IS ONE SICK PUP. The tiny black-and-white pug has just gone through a three-hour surgery to repair the circulation to her liver. She's unconscious and recovering in the intensive care unit at MU's veterinary teaching hospital.

Although the technology has come a long way since Norman Rockwell painted the gentle doctor shown here, the close connection between humans and their animals remains the same.

Hoochie is so small that she barely fills the incubator where she's warming up after surgery. Her body temperature and blood pressure dropped during the long operation, and surgeon Tony Mann wants to get them back up to normal.

A half-dozen veterinary students work with Mann to stabilize his tiny patient. One student takes Hoochie's temperature, another monitors her vital signs. There's a breathing tube ready in case the little dog develops respiratory problems. Another student tracks the heartbeat on an electrocardiogram.

Anesthesiologist Meg Gross bends over the incubator to see how Hoochie is doing. "Are you getting a good pulse?" Gross softly asks one of the students. "She'll get morphine next, so keep an eye on her respiration." For the next few hours, students and staff will hover over the pug to make sure nothing goes wrong.

Mann, associate professor of veterinary surgery, explains that the procedure he just performed is called a "shunt." In the normal circulation pattern, blood flows from the intestine into the liver. In cases like Hoochie's, the blood is shunted into another vein that bypasses the liver. Mann and his team have just redirected the blood flow back to Hoochie's liver.

Her owners brought Hoochie to Mizzou after she had a seizure a few months earlier. Liver function tests showed signs of a potential shunt. An ultrasound test confirmed it.

Most such operations go smoothly, but in this case the surgeons had trouble locating the correct blood vessel. Fortunately, they were able to turn to a special tool called a surgical C-arm. It's a high-tech fluoroscope that takes continuous X-rays during a surgery and projects the images on a screen in the operating room.

The C-arm has been used in human surgeries for quite a while, but MU is one of the first veterinary colleges in the nation to use the technology for animal surgeries. "The C-arm allowed us to see that yes, there was a shunt there; it allowed us to be more aggressive looking for it," Mann says.

Little Hoochie is going to be just fine. Her case shows how medical talent and technology make a difference at MU's College of Veterinary Medicine. The new teaching hospital in Clydesdale Hall offers the most advanced medical treatment for Missouri's pet owners and livestock producers. "When veterinarians send a case here, it's because we do some things that aren't available in private practices," Mann says.

The college, one of only 27 veterinary schools in the country, is celebrating its 50th anniversary this year, and the future is rosy. Researchers are helping make breakthroughs in both animal and human diseases. Its faculty are training new generations of veterinarians whose work will touch millions of lives. And in the process, MU is capitalizing on its strengths.

Thanks to a partnership of private and state funding, the college has the country's only endowed professorships in veterinary ophthalmology and cardiology. It soon will add prestigious professorships in oncology and small-animal nutrition.

The sailing hasn't always been smooth. When it opened just after World War II, the college made do with a surplus army barracks for a teaching hospital. Over the years, it struggled with financial problems that threatened not only its accreditation, but its very existence. Time and again, Missouri citizens and lawmakers made their voices heard: Missouri *would* have a veterinary college. Maybe not the biggest, but it would have a veterinary college to meet the state's needs.

Through the years, the college has repaid that support many times over. MU's Veterinary Medical Diagnostic Lab is a good example of the unique services that Missourians have come to expect. People from virtually every Missouri county come to the lab for answers about animal diseases. Dozens of faculty and technicians perform more than 180,000 specialized pathology tests annually.

"A hometown vet just doesn't have the time or resources to run all these tests," says Harvey Gosser, diagnostic lab director. "If we can get some good, quick answers back to them, maybe we can help save more animals from dying."

For instance, back in the fall of 1995 the lab helped save a herd of Simmental cattle after a mystery disease struck. A cattle producer near Bowling Green, Mo., first noticed muscle tremors in some of his prize cows. The cattle quickly went blind, staggered around the pasture with foam running from their mouths, then went

VETERINARY MEDICINE MILESTONES

The college, one of only 27 veterinary schools nationwide, celebrates its 50th anniversary. Here's some history.

1910

Farmers vaccinate hogs in Tarkio, Mo. After early years as a department in agriculture, a separate college opens in 1946.

1950

President Harry S. Truman speaks at the college's first graduation.

into convulsions. Ten cows in the 40-cow herd died. When a local vet couldn't confirm a cause, he brought one of the sick cows to MU's diagnostic lab for testing. Lab tests there diagnosed the mysterious ailment as lead poisoning. That helped the farmer trace the contamination to lead waste dumped on his land. He was able to save three-fourths of his herd.

In another case, scientists at the lab discovered that cattle were being poisoned by arsenic leaching from computer and copier parts dumped in a pasture.

The scientists have helped pinpoint viral diseases in swine herds that allowed producers to vaccinate their animals and avoid large-scale losses. They've tracked down toxic combinations in animal feeds that can kill cattle and other livestock. They've run sophisticated tests that help local vets decide which antibiotic will be most effective against such routine cattle diseases as shipping fever—a pneumonia-like ailment that can strike when cattle are shipped to market.

Part of the diagnostic lab's job is to keep track of trends going on in animal diseases around the state and then get that information out to animal owners. Sometimes a single test can avert a potential disaster. Back in the late 1970s, the lab identified a reproductive disease called equine metritis at a horse farm in central Missouri. The quick response meant that only a single farm had to be quarantined, which saved horse breeders in the state millions of dollars.

Any way you cut it, livestock is big business in Missouri. Sales of cattle and hogs added $1.6 billion to the state's economy last year. At 4.6 million head, Missouri has more cattle than any state other than Texas and is sixth in the number of horses. Add to that equation the millions of companion animals, and it's clear that animal health care is a vital service to Missouri.

When Missouri farmers call a vet to immunize their livestock, or when pet owners around the state bring their ailing animals to a clinic, there's a good chance the veterinarian was trained at Mizzou.

For five decades, the college has had a reputation for producing top-notch practitioners with excellent clinical skills, vets who can hit the ground running. One reason is the extensive clinical training students receive during their last two years in the program.

At Mizzou, the first two years are spent in a traditional classroom. Then, each vet student takes seven required two-month clinical blocks that cover all the medical specialties—from nutrition and public health to pathology and large-animal surgery. Students usually spend three more blocks working with private practitioners. The experience gives MU students an edge in the real world.

A dozen or so students start the small-animal orthopedic surgery block working side-by-side with faculty member John Payne and surgery resident Andy Anderson. They observe surgeries, help in the recovery room and take medical histories from pet owners. Each day, they meet with Payne and Anderson to go over their cases.

Some are a little nervous at the first meeting, unsure of what to expect. The previous evening, each student was assigned an actual case to research and report on. Many of them spent the few hours they had to prepare hunkered down in the library, frantically searching the medical literature.

Now they're ready—or as ready as they'll ever be—and armed with X-rays and volumes of notes. The first case: a routine spay and declawing of a 6-month-old tabby cat.

"Is her temperature normal?" asks Anderson.

"She's doing fine," the student reports. "Just a little sore."

"Are the bandages off?"

"We took them off early this morning."

The list of cases goes on. A Labrador retriever that's just had a hip replacement. A Doberman that was rescued from a puppy mill with gross bone deformities in its legs. The students sometimes hesitate over the correct medical terminology. A few fumble with X-rays as they snap the films in the viewer.

As the two-hour session draws to a close the students start to relax, for a little while at least. "All right," Anderson announces at the session's end. "We have nine new cases coming in tomorrow so bring your running shoes."

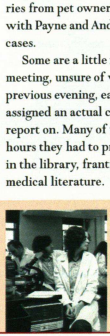
These students are more confident the next week, more confident still in the weeks to come. By the time they graduate, they'll have polished the skills they need to make a difference in the communities where they live and work.

It takes a special person to be a veterinarian, says C.B. Chastain, associate dean. As chair of the college's admissions committee, he has major responsibility for sorting through the hundreds of applications it receives each year. For every student accepted, at least three are turned away.

What does the selection committee look for? First of all, a good vet has to be good with people, Chastain says. But

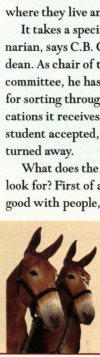
1950s

Harry Berrier inspects lamb carcasses. Many vets work assuring food safety.



1970s

Nancy Winjum, DVM '75, attends a veterinary pathology lab. In the 1990s, women constitute roughly half of veterinary students.



1980s

The college introduces beloved mascots Hillda and Louise.

there's more. A vet also has to learn to run a business, to work with sometimes difficult clients, and to convey in simple terms the complex technical information clients need to care for their animals at home.

In just about every admissions essay that Chastain reads, the applicants say they're motivated by a love for animals. "That's nice, but that's not nearly enough," he says. "We expect them to love animals; that's a given."

But somehow, in the four-year blur of classes and labs and clinics, Mizzou's veterinary students find the time for community outreach. For nearly 25 years a group of MU vet students has been nursing injured raptors—hawks and eagles and owls—back to health.

These birds of prey come from all over mid-Missouri, often brought in by local conservation agents. They've been hit by cars, shot, tangled in fences and snared in beaver traps. They have broken wings, nerve damage or legs and talons mangled by buckshot.

Student volunteers learn to treat the injuries and make sure the birds can survive in the wild once they're released. Dozens of raptors come through the rehabilitation center each year; nearly half are reintroduced to the wilderness.

On a gritty, cold January afternoon, Marla Gray slogs toward a cluster of small, slat-sided buildings surrounded by a stout wire fence. The compound is tucked into the woods behind the college's teaching hospital. Gray, a second-year student, is carrying a metal pan filled with dead laboratory mice. The sight is enough to make a human stomach turn flip-flops, but for her charges at MU's Raptor Rehabilitation Center she might as well be toting a thick T-bone steak.

Gray stops at the first cage and listens for a familiar noise. Noble, a red-shouldered hawk perched inside, knows it's dinner time. "Are you talking to us?" Gray coos. "Are you talking to us, Noble? You're such a good girl." She unlocks the cage, edges in and lays down a neat row of dead mice along Noble's perch.

"They're not ever happy to see us, but they tolerate us," Gray says. "They associate certain people with food. When she sees me, she knows she's going to be fed."

Gray is getting a few birds ready for a presentation at a Columbia junior high school. While she's here, she'll finish her rounds, feeding some of the permanent residents. These are birds injured so severely that they wouldn't survive in the wild. There's J.D. the red-tailed hawk. He's been here for eight years after a run-in with a car. There's Buzzy the turkey buzzard, Lucifer the screech owl and a great horned owl named J.R.

Buzzy, by the way, doesn't get any dinner because he's going along on the school trip. "He tends to throw up if you feed him before a presentation," Gray explains. Buzzy's histrionics might be more than simple stage fright. In the wild, buzzards use their horribly vile-smelling vomit—eau de road kill—as a defense against predators.

Charles Coleman is one of the upper-level students who oversee the birds' treatment. They doctor wounds, watch to make sure the birds are eating, even let them try out their weakened wings in a 100-foot-long flight cage. Before it's released, each bird is tested to make sure it can hunt. "We don't want to put anything back out there that's not up to its potential," Coleman says, "because it won't survive."

Coleman's been working with the raptor project for four years, and he's gotten used to the lack of affection most of his patients show him. He's also learned not to take them for granted. "Most of these birds are fairly belligerent," Coleman says with a matter-of-fact shrug. "Hawks will attack you with their feet and talons; owls attack with their beak and claws. Eagles are pretty bad about biting."

There is a payback for Coleman and the other student volunteers. They say it's hard to describe the emotion they feel when they release one of their former patients and watch it soar into the sky. "I think we're all kind of fascinated by the birds; they're very majestic," Coleman says. "We're interested in keeping as many of them out there as we can."

That tradition of caring is ingrained in MU's College of Veterinary Medicine and in its graduates from its earliest days in the 1880s, when it was still a department in the agriculture college.

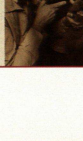
Back then, veterinary professors pioneered new techniques to prepare vaccines that protected Missouri livestock against smallpox, cholera and rabies. Now they use the latest molecular biology techniques, nuclear medicine and sophisticated medical scanners to fight even tougher medical problems in animals.

"The college is truly poised, as never before in its history, to make great steps forward into becoming a national leader in veterinary medical education and outreach, clinical sciences, and basic and applied research in biomedical sciences," says Dean Richard Adams.

"As long as there are places for animals in the Show-Me State, there will be coveted places for the college and our graduates." ❋

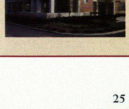
1990s

Through the raptor rehab program, Heather Anderson, DVM '93, works with a red-shouldered hawk.



1990s

Ophthalmologist Cecil Moore examines a dog's eye. The college's niches are cardiology and ophthalmology.



1993

With help from the Anheuser-Busch Foundation and others, Clydesdale Hall teaching hospital opens.