EMERGENCY!

Join us as we take our "vet cam" to Texas A&M University's Large Animal Clinic to track the day-shift at a state-of-the-art equine emergency room.

A SHRILL WHINNY SOUNDS FROM BEHIND AN OVERSIZED DOOR. Echoes of that eerie call are drowned by the din of crashing metal punctuated by a chorus of shouts. Alarmed, equine orthopedic surgeon Clifford Honnas, DVM, sprints toward the noise, then bursts through the door.

What will he find?

Join us as we use our "vet cam" to find out. You'll spend the day with vets and students at the equine critical-care unit of Texas A&M University's Large Animal Clinic. Share their highs and lows, from the dramatic to the mundane, as they minister to a never-ending parade of four-legged clients, ranging from back-yard pets to world champions.

7:30 AM: On the far side of the door, Honnas finds a disaster-in-progress. A Thoroughbred mare has broken free of the X-ray room's treatment stocks with a series of mighty bucks. Technicians, vets, and students scatter as the mare careens around the bedroom-sized area, steel shoes skittering across the tile floor. Her shoulder slams a metal push-cart to the ground. Instruments fly, adding to the bedlam.

"Whoa! Whoa, girl!" cries a female student, lunging for the mare's lead rope. She misses. Honnas doesn't, snagging the rope as the horse begins another frenzied circuit. Working furiously, first-year surgery resident Reese Hand, DVM, loads a syringe with a sedative. As Honnas struggles to restrain the mare, Hand finds a vein, inserts the needle, and depresses the plunger. Within moments, the crazed patient morphs into a docile one. The mare, unharmed, offers no argument as she's led back into the stocks. Honnas casts a wry grin at Hand.

"I'm gonna leave now," he says, "'cause I don't want to see what happens next."

But what happens next is uneventful. A technician stands at the mare's head, rubbing the horse's face while radiographs are shot.

Just another day at the office.

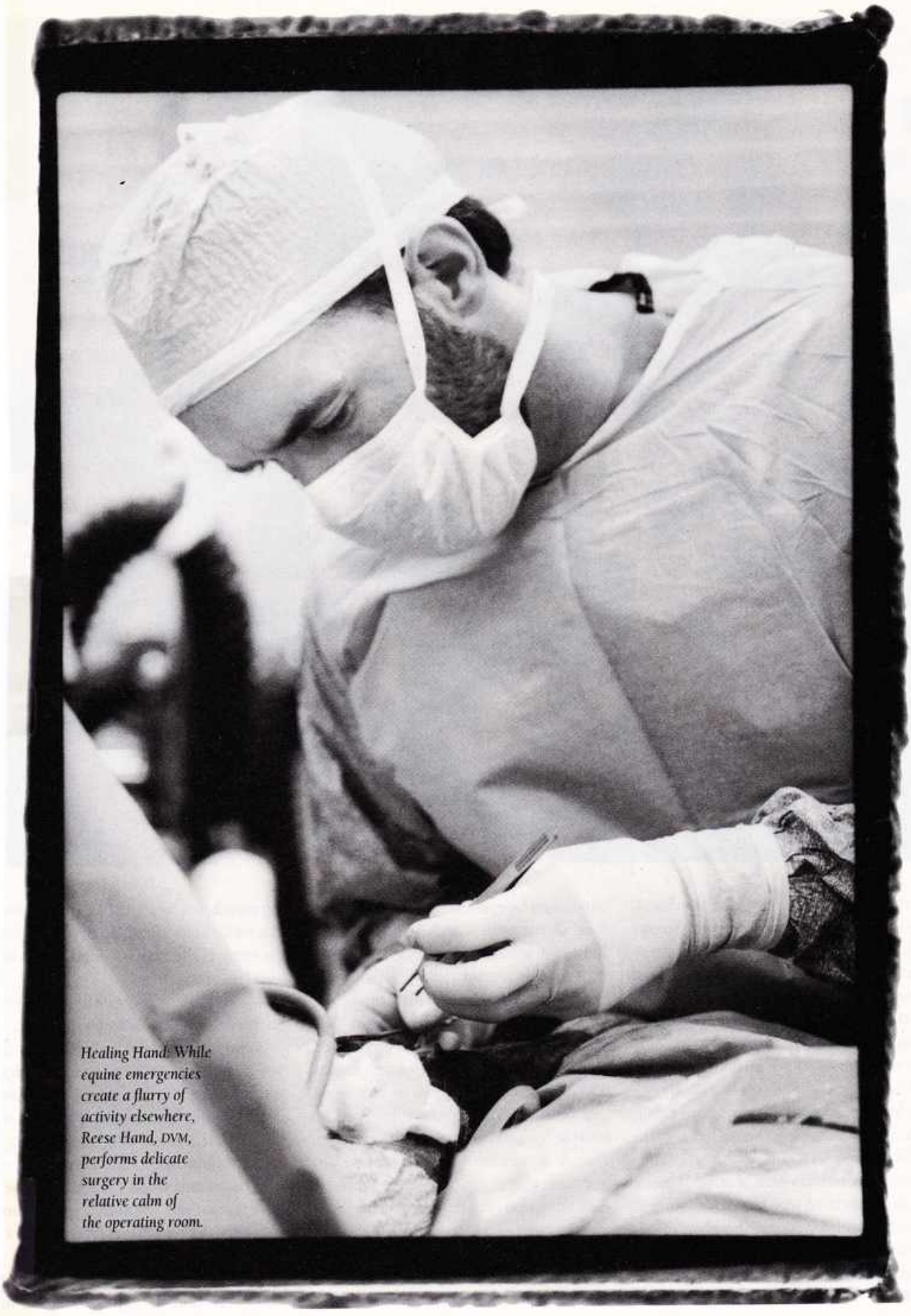
8:00 AM: Honnas and Hand move to the clinic's intensive-care unit. A 4-year-old colic patient, Cricket, stands in one of the stalls, monitored by closed-circuit cameras. He was admitted at 3:00 A.M. Hand updates Honnas. "He's extremely gassy, but now somewhat stable," he reports. The chestnut gelding dozes, ignoring them both.

8:15 AM: The vets go next into a treatment room where Scotty, a 13-year-old roan Clydesdale, stands patiently. The victim of a chronic hoof infection, Scotty recently foundered. His owners are an elderly couple who've been standing the stallion at stud for years. "They told me they love him dearly, and that we're to do all we can to save him," says Honnas. That sentiment is key to the vet; it means the owners are willing to explore–and pay for–treatment options. Not all horses are so lucky.

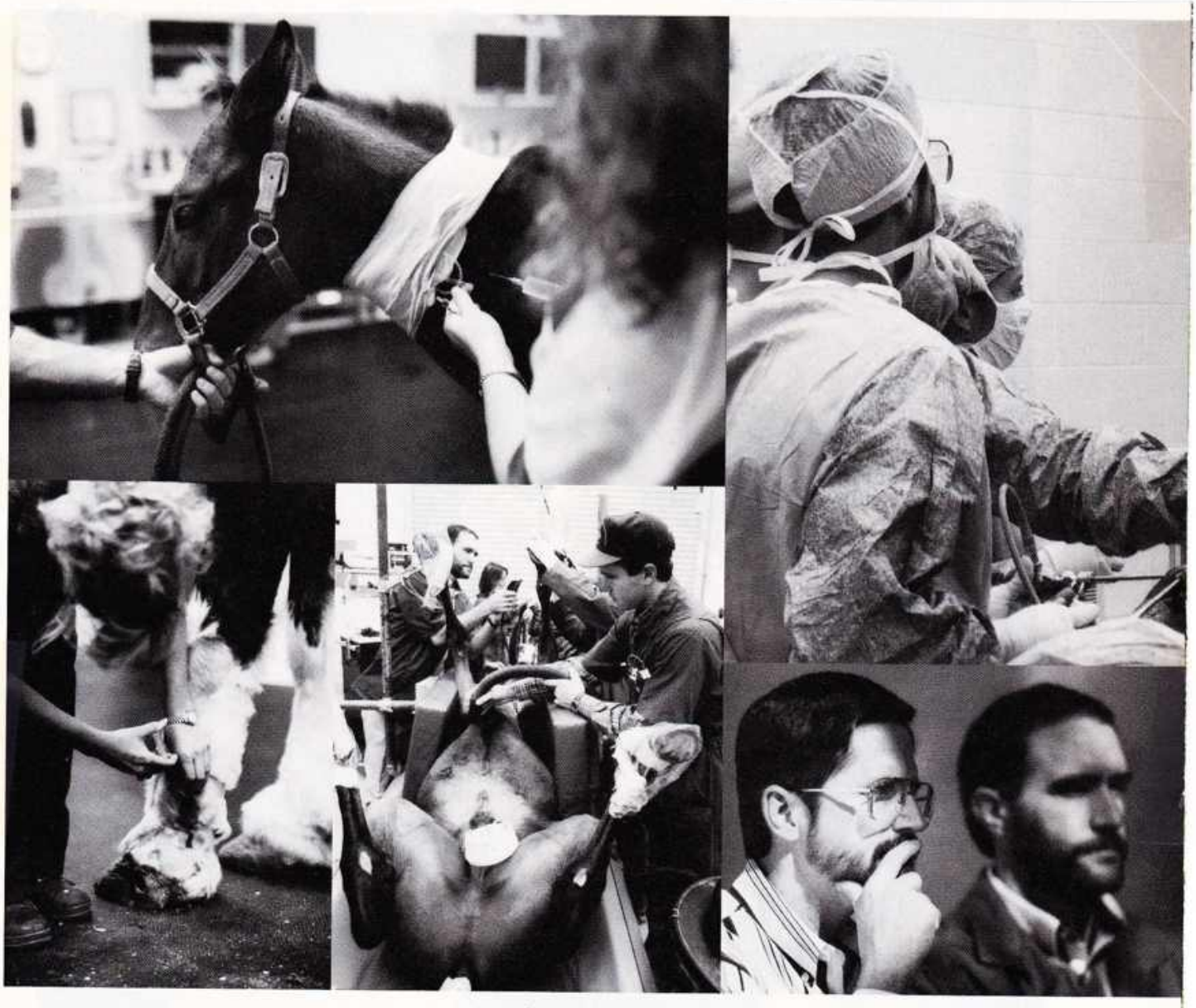
As soft-rock music plays on a nearby radio, Honnas scans his e-mail messages in a tiny corner cubicle off the treatment room. Student Lauren Lanier injects the stallion's pastern area with nerve blocks that will deaden feeling to his foot, so dead tissue can be cut away. Standing by to assist with the dirty work are two other students. They've been at the clinic since 6:30 A.M., and will likely still be here at 9:00 P.M.

continued on page 72

WRITTEN BY ANNE LANG - PHOTOGRAPHED BY KEVIN MCGOWAN



Healing Hand: While equine emergencies create a flurry of activity elsewhere, Reese Hand, DVM, performs delicate surgery in the relative calm of the operating room.



Hand applies a tourniquet to stem bleeding as Lanier steps in with a curette. Scotty's stoicism indicates familiarity with such treatments. The fetid smell of dead tissue and pungent antiseptic fazes no one in the room.

8:30 AM: Someone delivers several boxes of doughnuts to Scotty's treatment room. (Apparently chowing down on doughnuts after debriding dead tissue is a doable thing.) Students stifle yawns as they record details of Scotty's treatment. Someone switches the radio station to country music; Shania Twain belts out *Any Man of Mine*. Honnas, his shirt splattered with blood, is dabbing at the stains with a wet paper towel.

"It never fails," he mutters. "Whenever I forget to put on a lab coat...."

8:45 AM: Scotty stands quietly while Lanier winds duct tape around the horse's massive foot, then covers it with Vetrap. Honnas leans in to scrutinize her work, but the student's hands remain steady. Walking gingerly, Scotty is led back to his stall.

9:00 AM: Honnas and Hand begin daily rounds. As they walk along the rows of stalls, fourth-year students take turns stepping forward to describe the progress on their particular cases. As they explain, fellow students scribble notes and occasionally ask questions. Honnas quizzes each one relentlessly, later admitting that students have succumbed to tears more than once during rounds.

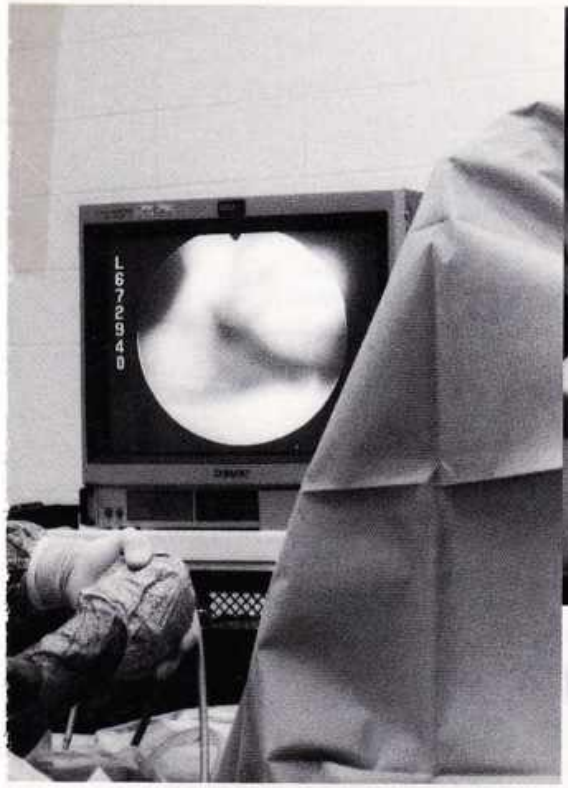
"Our purpose is to teach them to think on their feet, because that's how it is in the real world," he explains. There are no apologies.

Among the cases that are presented during rounds is a 5-month-old Thoroughbred colt with a chip fracture in his fetlock joint, the result of a puncture wound. He's scheduled for surgery today.

9:15 AM: Lanier presents a filly with a cast on her left foreleg. Born prematurely, the youngster had a severe limb deformity that was treated by breaking the cannon bone and stabilizing it with stainless-steel plates.

"She's really been hard to work with, and she's a biter," Lanier admits, struggling to hold the fidgeting foal's halter. "But she goes home tomorrow!" The students send up a mock cheer. Moments later, rounds over, they dash for the treatment room and descend like locusts on the doughnuts.

9:35 AM: The break is short-lived. Hand summons students Christy Rafferty and



Clockwise from opposite page, upper left: Student Christy Rafferty gives a presurgery anti-inflammatory to a Thoroughbred colt with a chip fracture; during surgery, Clifford Honnas, DVM (left), checks an arthroscopic image from the foal's damaged joint; students ease a 2-year-old racing Quarter Horse gelding fresh from bone-chip surgery into a recovery stall; student Alison Marsh checks Cricket, a fatigued colic patient; outside the clinic, all is calm–for now; Dr. Honnas (left) and Reese Hand, DVM, evaluate X-ray film of a 17-year-old broodmare with a sunken hipbone; Dr. Hand (left) and student Clint Unruh (right) prep the foal for surgery; student Lauren Lanier injects the foundered Clydesdale, Scotty, with nerve blocks.

Lanier to assess a 2-year-old Thoroughbred racehorse brought in for a lameness evaluation. The students take turns running their hands over the filly's body, then watch as she's jogged. "The trainer suspects a stifle problem," Hand announces. "She just isn't performing up to snuff." From here, the filly will go to X-ray, then receive nerve blocks in her left rear stifle to help pinpoint the lameness' origin.

9:45 AM: Lanier jogs to the front parking lot, where she's been called to assist with another case. A middle-aged couple are unloading their chestnut Quarter Horse gelding, a 2-year-old racehorse. He's in for surgery to remove bone chips from both front fetlocks. The owners pat their horse and murmur to him, then hand him over to Lanier, who assures the couple their horse will get the best possible treatment. Customer Relations 101.

10:15 AM: In the parking lot, two weanlings with clubfeet step out of a trailer. As the youngsters are led through the maze of corridors, Hand explains that their feet will be trimmed to lower the too-high heels associated with clubfeet. If corrective trimming doesn't encourage normal hoof growth, the weanlings will need surgery to cut their check ligaments. This procedure will reduce tension on structures leading to the foot, thereby promoting normal heel development.

10:30 AM: Honnas' pager goes off. He and Hand report to an X-ray room to scan films of a 17-year-old gray broodmare that's lame in her hindquarters. The mare is led to the parking lot. Honnas notes a left rear hipbone that's visibly sunken. After watching her jog, he also points to atrophy in her hip. "It might be a fractured pelvis," he speculates. "But I think

she's got other serious musculoskeletal problems. We'll do an in-depth evaluation later." He and Hand dash off to prep for surgery.

11:00 AM: The day's first surgery patient is the 5-month-old Thoroughbred colt with a chip fracture. He's waiting, wide-eyed, in a treatment room with his dam, his scrawny neck wrapped to hold the anesthesia catheter in place. Mare and foal are led to a padded prep room, where the youngster receives a dose of anti-inflammatory medication. Meanwhile, his mother gets a shot of sedative to calm her for the imminent separation. As the vets work, two assisting students debate the odds on an upcoming football game.

The foal is moved to a narrow, padded chute, where he calls for his mother. As though in response, staff anesthesiologist Elizabeth Martinez, DVM, materializes to anesthetize the youngster. Those around her snap to attention. Everyone in the room has scrubbed, and is suited, gloved, and masked. They look as though they're preparing to work on a human baby.

Within 5 minutes, the foal crumples to the floor, out cold. A hydraulic lift carries him to the operating table, where he's positioned on his back for surgery. Honnas moves in to shave a site on the youngster's left foreleg. A dozen or so assistants slip into position like a choreographed dance troupe. Beeping, blinking monitors track vital signs, which are scrutinized by Martinez. The foal is draped in white blankets; the reek of antiseptic permeates the air as the surgical site is swabbed with an iodine-alcohol rinse.

11:44 AM: An arthroscopic surgical-camera device is linked to a nearby monitor. Once inserted into the joint, this tiny, lighted camera will reveal a magnified image on a nearby screen. Honnas will use that image to survey the area so he can scrape away cartilage and bone damaged by the puncture wound, clearing the way for healthy bone to grow in its place.

Hand begins passing instruments to Honnas, who withdraws joint fluid to be cultured. He then injects saline into the joint before going in to scrape.

"There's quite a bit of nasty bone in here," Honnas observes, frowning at the screen. "But so far, I see no sign of raging infection." That's good news for the foal. Bone infections can cause permanent damage. His prognosis goes from guarded to good.

12:15 PM: Rafferty stitches up the incision, then the limp foal is carried via hoist to a padded recovery stall, where he's greeted anxiously by his dam.

12:30 PM: Most of the students break for lunch in the nearby vet-school cafeteria, not knowing when they'll eat again.

1:30 PM: A check on the recovery stall reveals the foal on his feet, nursing.

1:35 PM: In ICU, Cricket the colic patient is sweating and restless. Internal medicine/ultrasound specialist Dave Schmitz, DVM, examines him. Afterward, he says he suspects *nephrosplenic entrapment*, a blockage that results when the colon shifts from its proper location and becomes entrapped between the body wall and the top part of the spleen. Treatment will include jogging on a longe line to try to "bounce" the wayward length of large intestine back into place, plus medication to shrink the spleen, thus taking pressure off the colon. If these noninvasive options fail, Cricket will need surgery.

3:00 PM: Honnas' and Hand's pagers go off in unison, shattering the quiet. They stride off to help with a postop patient. It's the chestnut gelding that had bone-chip surgery on both fetlocks. The two men walk in just as the unconscious gelding arrives via hoist in the padded recovery stall. As the patient is gently lowered, Honnas attaches ropes from overhead pulleys to the horse's halter and tail. He'll man the ropes to help the gelding stand once he regains consciousness.

"This can be the most dangerous aspect of surgery for a horse," Honnas says in a low voice. "Some horses just freak out, which can cause serious injury." Handlers are at risk, too. An escape ladder hugs one wall, allowing for a quick scramble out of harm's way.

The gelding lies inert on the padded

continued on page 76

Vet School At-A-Glance

School: **Texas A&M University School of Veterinary Medicine.**
Location: **College Station, Texas.**
Hardware: **The university's Large Animal Clinic is located in a $25 million facility built in 1993.**
Type of program: **A teaching facility, with clients gained mostly from referrals.**
Average number of applications per year: **950**
Average number of students accepted per year: **128**
Average number of graduates per year: **126**
Average number of horses treated per year: **4,500-5,000**

floor, breathing heavily through a tracheal tube in his mouth. Both forelegs are thick with bandages. A padded hood cushions his head against injury, should he start to struggle. The hood is loosely wrapped with a towel that acts as a blindfold, further reducing the chance of panic. Hand gently straddles the horse's neck, injecting additional sedative medication through a neck catheter to keep the horse calm as he comes to. Quiet conversation ensues as horse and handlers await his return to consciousness.

3:20 PM: The gelding's head jerks once. Conversation halts; everyone tenses. It's a false alarm. The horse lies still once more. Minutes later, he stirs again. This time it's for real.

"Easy, guy," soothes Hand, patting the horse's shoulder as he moves off his neck. Honnas tightens his grip on the pulley ropes. With a sudden, powerful thrust, the horse lunges to his feet and begins to stagger like a drunk. He slumps against one wall, his sides heaving as he gulps air. Honnas clucks to him to encourage movement to a more balanced position, using leverage on the ropes to help the horse find it. Hand chants: "Whoa… whoa…whoa." The horse's knees buckle and he goes down again, coming to rest on his sternum. He sways slightly, but is otherwise quiet. His breathing remains labored.

3:40 PM: The chestnut gelding stands up again, sways, but remains on his feet. When he can maintain his balance on his own, Honnas releases his grip on the ropes, then tells an attending student, "Tidy up these wraps when you get back to his stall. Pull out the catheter, and write up some discharge instructions for the owners. They can pick him up tonight."

3:50 PM: Back in ICU, Cricket stands, his hide glistening with sweat from a jog session. A subsequent ultrasound reveals that exercise has failed to shake the colon back into its proper place, though medication appears to have shrunk the spleen. Rather than resort to colic surgery, the vets opt to repeat the jog/ultrasound program for the next few hours.

4:15 PM: After his next jog session, Cricket is ultrasounded by Debbie Kemper, DVM. She'd admitted the horse in the wee morning hours, and has been at his side off and on all day. Both are showing signs of fatigue. "The colon's position has definitely changed," Kemper announces with a grim but triumphant smile. She calls for another round of exercise, followed by another ultrasound.

5:17 PM: The chestnut gelding that had fetlock surgery is out in the parking lot with Lanier, bright-eyed and ready to head home. Honnas comes out to shake hands with his patient's grateful owners.

5:27 PM: In the ICU with Cricket, a weary Kemper informs students that the colon is no longer trapped, enabling that length of large intestine to begin its migration to its rightful place. This is good news for Cricket–he's thus far dodged a surgical fix. "He'll be monitored and hand-walked through the night. Hopefully the colon will continue to move back on its own," she adds, sinking into a chair with a sigh.

In the meantime, Cricket has gained some ICU company. Just admitted are a horse with Equine Protozoal Myelitis (EPM), a cutting-horse filly with peritonitis, a weanling with acute diarrhea, and a horse with a severe case of ear ticks. So begins the long night. ✦