

A DIFFERENT BREED OF HEALING: THE DAILY LIFE OF BERKLEY CHESEN

*Think you want to be an equine surgeon?
Take a glimpse into what it takes.*

By ANNA SOCHOCKY

When she's not busy performing arduous procedures, equine surgeon Berkeley Chesen makes time to ride her mare Emmy.

When the decision was made to euthanize Barbaro, the 2006 Kentucky Derby winner, the team of equine surgeons who had labored for eight months to bring the colt back to soundness and health lost a friend. But what is daily life like for the quintessential equine surgeon operating on horses without the glare of unforeseen celebrity?

Much like the narrator of the beloved veterinarian memoir *All Creatures Great And Small*, by James Herriot, solo practitioner Berkley Chesen, DVM, DACVS-LA, clocks the hours and miles, too. Her New Mexico territory is a far cry from Herriot's British setting, but the dedication required is the same.

Today is surgery day. Chesen rises long before the sun peeks through the pinion trees and drives along desolate and dusty roads for nearly five hours to a clinic south of Santa Fe. Chesen's regular rotations at Tularosa Equine Clinic complements the practice's services for the Tularosa

Basin's growing horse population, many of which are race horses.

The Best of the Best

By the age of 3, Chesen knew that she wanted to be either a veterinarian or a professional football cheerleader. She grew up riding and training hunters and jumpers, so when "the Dallas Cowboys didn't call," she explains with a laugh, her future with a herd of a different variety took shape quickly. An experience with her own horse, who colicked severely enough to necessitate emergency surgery, made Chesen realize she wanted to pick up the scalpel herself one day.

Upon graduation from the University of Nebraska at Lincoln, Chesen was accepted into the Purdue University School of Veterinary Medicine (Ind.), one of 28 programs accredited by the American Veterinary Medical Association. But simply finishing veterinary school does not a surgeon make.

In order to gain board certification in equine





surgery, veterinarians are required to complete a rigorous three-year residency program after completing an optional internship. So following her graduation from Purdue in 2000, Chesen secured an internship at Hagyard Equine Medical Institute in Lexington, Ky. The largest equine practice in the world, the facility houses more than 60 veterinarians and is the ultimate place for a young professional to gain experience.

“At Hagyard there’s a constant turnover all day and well into the night,” Chesen explains. “Some horses are being anesthetized or are recovering in multiple recovery stalls. The surgeries vary every day, from arthroscopies to surgery on foals, to emergency surgeries.”

Only 20 to 25 equine surgical residencies are open each year in the United States, and every applicant is highly competitive. So for Chesen, an internship at Hagyard was an invaluable leg up, as was the experience she gained by staying on and serving as an ambulatory practitioner for the next five years. Because when she went on to apply for surgical residency at Texas A&M University—which she obtained—she had to compete against nearly 80 other applicants.

And the work certainly doesn’t stop once a surgeon candidate locks down a residency spot. In addition to meeting challenging training requirements, residents carry substantial caseloads, perform and publish independent research and teach interns and veterinary students.

Board certification by the American College of Veterinary Surgeons requires residents to pass three examinations addressing practical, case-based and written knowledge.

In a practical exam, a candidate may be shown a video of an arthroscopy and asked to identify the joint being treated, the lesion and the anatomic location of the portal. Case-based exams test the candidate’s ability to diagnose a problem and determine appropriate treatment options as well as anticipate case complications. The written exam, by far the most academic of the three, tests applied knowledge, rather than memorization.

It’s no wonder why most residents spend two to three months studying full-time for the exams. But after plenty of cramming (and spending an additional year at Texas A&M working in the Emergency Critical Care division), Chesen passed her exams with flying colors in 2009.

The Devil’s in the Details

Reproductive complications and removal of cancerous tissue often require an invasive alternative, but things like colic, soft tissue injury, fractures and lameness are the most common reasons for equine surgery, each with considerable risk to the horse.

Before surgery is selected as the most viable option, veterinarians perform case-related diagnostics and may include any number of options, including tubing and rectal exams in cases of suspected colic, or ultrasounds and X-rays on horses with chronic lameness.

Today Chesen’s New Mexico operating theater, stocked with freshly sterilized instruments wrapped in light blue cloth bundles, stands ready for the morning’s first patient, a 2-year-old racing mare with bone chips in both knees. IV



Left: Preparing a horse for surgery is critical and complex. The manner in which a horse is sedated and positioned on the operating table influences the outcome of the surgery and the quality of the recovery.

Right: The dance of surgery continues for hours, as Dr. Berkley Chesen skillfully navigates the joint capsule with the arthroscope while simultaneously removing bone chips from the mare's knees.

cian places a long endotracheal tube into her lungs to administer oxygen and inhalant anesthesia. Placing a soft cloth over the mare's exposed eye, the technician periodically rubs around the socket to test reflexes and determine whether more or less sedation is necessary.

A second technician shaves the mare's knees, wraps her front legs in plastic to protect the site from contamination and sterilizes the bare skin. Chesen makes an incision, first in the plastic, followed by one in each of the mare's knees, and positions the video monitor and the table of surgical instruments.

On the monitor, Chesen's skilled articulation of the arthroscope illuminates the joint socket's interior. The soft tissue shifts and sways like blood-tinted cotton candy as she hunts for

bone chip fragments, some as small as the head of a pin.

Chesen methodically removes each shard of bone with another instrument and scrapes the abnormal, fibrillated cartilage away. After four hours on the table, the surgical team radiographs both knees and pronounces them clear of lameness-inducing splinters.

After both knees are wrapped with thick padded bandages and secured with stretchable adhesive, the mare is lifted from the surgical table and lowered into a padded recovery stall. And this is where the real tension begins.

The recovery stage, even more than the actual surgery, is often the most dangerous time for a horse. Fight-or-flight instinct coupled with the lingering shadows of anesthesia may turn otherwise docile animals into a violent risk to themselves and the medical team. When a horse is coming out of anesthesia, the body and the brain often aren't ready to coordinate themselves to stand.

"I remember cutting a colic when I was at Texas A&M. The surgery went well, but the horse went to stand up, took one bad step and broke its leg," Chesen reflects, saddened.

Post-operatively, owner compliance is a huge issue. Even after the best surgery, if the horse isn't given the time and opportunity to heal, the effort can be for naught.

"Without a doubt, the most rewarding aspect of being an equine surgeon is having a good outcome," Chesen says. "I've never understood the arrogance and egocentricity of some surgeons, because doing a residency and becoming a surgeon is also about learning when *not* to cut. This is a humbling profession." ©

drips, blood pressure monitors and anesthesia tanks ring the surgical room, but before work commences, first the patient must be sedated and placed on the operating table.

To remove bone chips, Chesen will use an arthroscope, a 4-millimeter wide telescopic instrument inserted through a small incision, to view the interior of the joint capsule and perform the surgery. Equine arthroscopy is as common as the procedure is on humans, and it dates back to the 1970s as a method for diagnosing and relieving equine joint disease.

The mare stands against the wall of the darkened recovery room, an intravenous catheter wedged in her neck, waiting for the unknown. A final dose of muscle relaxant and anesthetic winds through the catheter tube while Chesen and three surgical technicians line up along her body, poised to pull her to the middle of the room when she slumps onto a padded mat.

The team swiftly hobbles the mare's limbs before hoisting her into the air and positioning her on the operating table. A long day of surgery has begun.

"It's very important to position the horse on the table correctly," Chesen explains. "It's absolutely imperative that a horse is positioned with plenty of padding and no pressure points on the surgery table.

"If not done correctly, the horse can incur a neuropathic or a muscle injury that can cause them to be functionally impaired and unable to stand," she adds. "A damaged muscle can actually damage the kidneys, as the myoglobin is filtered through the organ."

With the mare's head tilted to one side, a surgical techni-