

Wild Tracks

southwest wildlife rehabilitation & educational foundation, inc.

Spring 2005

Chronic Wasting Disease

by Jason Cook

Although Chronic Wasting Disease (CWD) is not a recent discovery, it has become quite a concern for the Arizona Department of Game and Fish. CWD has been found in Colorado, Utah, and New Mexico but, although it's spreading fast, has not yet been found in Arizona.



So what is CWD? It is a member of a family of diseases known as Prion diseases, which include: mad-cow disease, scrapie, which occurs in domestic sheep and goats, and Creutzfeldt-Jakob Disease

CWD

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Veterinarian Interns Provide Valuable Service

by Carol Osman Brown

During the long hours of the night, they often are there to offer a helping hand in a medical emergency. They watch an injured wild animal approach the thin line between life and death, then coax it along the road to recovery. They learn about wildlife medicine from animals that unwittingly help teach important lessons.

These interns, who already have a degree in veterinary medicine, come from Sonora Veterinary Specialist Hospital, where they are doing a one-year internship. After getting their degrees, they participated in a match program to locate animal hospitals and clinics where they could complete their internships. They have come to Sonora Veterinary Specialist Hospital from all over the world to learn about specialty veterinary medicine and wildlife medicine.

The Benefits of the Program

As part of their internship, they provide countless hours of service annually for Southwest Wildlife. Animals in critical condition are often taken directly to the hospital for tests and, sometimes, surgery. The senior doctor may perform surgery with the interns assisting or, depending upon the interns' levels of training and experience, they may even perform part or all of the surgery themselves. Each intern then is responsible for the recovery of that patient until the animal is released from Sonora Veterinary Specialist Hospital and returned to Southwest.

The interns also rotate out to Southwest's 10-acre desert habitat facility to work in the medical care center. There, they follow up on those animals released from the hospital and provide on site

Interns

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Southwest Wildlife Needs...

...stuffed animals.

...a landscape volunteer who loves to garden and has some knowledge of native plants. You would weed, prune shrubs and trees to look natural, and maybe even put up some interpretative signs.

...new or gently used office furniture/equipment: desk, filing cabinets, chairs, computer, copy machine, & printer.



In the Beginning...

He came to Linda in 1990, after a farmer who was mowing hay had unknowingly gone over his family's den, killing his mother and siblings. The farmer gave him to a neighbor's child, who kept him in a bed liner in the garage.

When he was about two months old, the child's mother decided she wanted to get rid of him and called to have him picked up while her son was in school. He arrived at Linda's house in a crate. When she opened it, he ran out and jumped onto her lap, licking and kissing her. This coyote pup had obviously been imprinted!

Noticing that his eyes were gray, Linda took him to see Dr. Ingram, then to eye specialist Dr. Sigler. He was diagnosed as having nutritional cataracts, the result of being raised on cows' milk instead of Espilac. Nothing could be done for this condition, so he would spend the rest of his life with limited vision.

Linda named him Don Coyote, after the book *Don Coyote*. Don has spent all his life at Southwest Wildlife—most of it with Ashley, who was named by the fire fighters who saved her from the cowboy wildfire in 1994, where she sustained permanent lung damage. They have been constant companions and faithful mates for 10 years.

During his lifetime, he has become a celebrity of sorts. He was filmed howling at sunset on Pinnacle Peak, and the footage was used in the opening for the Channel 10 news for several years. He was also in the National Geographic Special, *The Sonoran Desert: a Violent Eden*, and has had a few small parts in other scientific films.

A Recent Rescue: Porcupine Takes Road Trip

by Charmain Lovely

My husband, Collis, and I got a call from Linda over the Fourth of July weekend. She advised us that a HUGE porcupine had been found at an auto dealership and needed to be rescued.

My husband and I hopped into the car with a large crate and drove to Larry Miller Toyota to pick up this huge porcupine. When we arrived, we were guided to the side of the building. In the corner by the front door of the dealership was a small, juvenile porcupine who looked quite scared. Apparently his size was a matter of perspective!

The people at the dealership were really concerned about the porcupine. They had put out water and half of someone's sandwich for him. While we were getting him into the crate, a large crowd gathered—I think he made quite an impression!

No one knows how the porcupine got there, as porcupines generally don't live this far south in Arizona. One theory is that he walked south—apparently for many miles!—along a wash that ended at the location of the dealership. However he got there, he was a very hungry porcupine. He ate a whole banana on the trip back to Southwest Wildlife.



He is called Larry, to honor the nice people at this dealership who cared enough to call for help and did the best they could to keep him comfortable. Larry is doing very well in the porcupine exhibit in the education section of Southwest and seems to enjoy his new porcupine friends there.

What Color is an American Black Bear?

Well, some members of the species *ursus Americanus* are black. But the American black bear may vary in color from blonde to red to shades of brown to—of course—black. A patch of white hair on the chest is not uncommon.

Black bears used to roam in all areas of North America, except in the Great Plains, deserts, and the barren areas of northern Canada. Today, they may still be found in parts of 38 states, including Arizona. The brown bear, or grizzly, had a similar historical range. Unfortunately, because grizzlies were more actively exterminated and are more sensitive (i.e., less adaptable) to the presence of humans, today the only places in which you might encounter a brown bear are Yellowstone, northwestern Montana, western Canada, and Alaska.

Timber, open timber with dense shrubs, and riparian areas are favored by bears. This is likely because these areas tend to have better water supply and, therefore, provide better cover and higher quality and quantities of food resources. Those areas also offer better denning sites. Dens are often dug underground or into hillsides, but may be located under dense shrubbery or fallen trees or within hollow trees.

Upon exiting their dens in the spring, bears will exist primarily on grasses and broadleaf flowering plants. These appear first at lower, warmer elevations. As the weather warms and the snow cover recedes, bears follow the green-up to higher elevations. Because bears don't digest plant material well, they must consume huge amounts these foods just to survive. They may even continue to lose weight during this period.

As the grasses begin to dry up during the heat of the summer, bears will rely more heavily upon insects, especially ants and sometimes bees & wasps, which they find in logs and under rocks. They may eat some birds, elk, and deer. However, less than 2% of their diet consists of such meat.

The berry season arrives in late summer at the higher elevations. Finally, the bears have access to nutritious, high energy foods! This is the time of year when bears put on weight, storing fat reserves for the winter. As the weather cools, they follow the berry supply to ever lower elevations.

At some time in mid October or early November, bears enter their dens to hibernate. The beginning of hibernation is dictated more by the food supply than by weather. During hibernation, their heart and respiratory rates will slow significantly, but their body temperatures will drop only slightly. They will exit their dens in mid to late April, much thinner than when they entered.

Bears do not defend a territory. Instead, each has a home range which may overlap with bears of both sexes. However, bears are not social animals. Adults will only spend 2-5 days together during mating season, which may be anytime from mid May through early August.

When bears reach sexual maturity is determined more by size than age. This may happen anywhere from 4 to 7 years of age, depending upon the quality and quantity of food that's been available. Because cubs will spend 15-17 months with their mothers, females can breed only every other year at most. If food resources are scarce and a female is malnourished, she may not breed at all during that season.

After mating, the fertilized egg is implanted in the wall of the uterus. It will not begin to grow until December. Then, in late January or early February, the cubs will be born in the den. Litters may consist of 1 to 3 cubs, and litter size seems to be directly related to the abundance of food resources, especially berries, available to the mother during the fall.

The cubs will weigh only 8-12 ounces and their eyes will be closed, but they will have hair. They will spend their first summer and the next winter with their mothers. Then, in late May or early June of their second summer, the yearlings will break away from their mothers to strike out on their own.



medical care for animals.

According to Southwest Wildlife's executive director, Linda Searles, it was often difficult to find information on how to care for certain species—and equally difficult to find veterinary help for the animals—when Southwest was first founded. She explains, "The internship program provides doctors an opportunity to teach wildlife medicine while helping an actual patient. Each intern has an opportunity to learn and the animals have a second chance at life.

"There is no way that a wildlife rehabilitation center could afford to spend hundreds of dollars on patients for orthopedic surgery, critical care, CT scans and other expensive procedures. For example, if a bobcat who has been hit by a car comes in and needs extensive orthopedic surgery, it would be extremely expensive, and probably cost prohibitive, for us to help him. But due to the internship program, this animal gets a second chance at life. This program has enabled us to turn difficult circumstances into a win-win situation!"

The internship program:

- Exposes young vets to wildlife medicine and the virtues of altruism and compassion.
- Provides direct access to wildlife, thus dispelling myths and fears.
- Provides much-needed veterinary help on-site.
- Teaches new vets that while saving one life may not make a difference to the species, it certainly makes a big difference to that individual animal.
- Allows the animals, throughout the course of treatment and rehabilitation, to give back more in knowledge and direct experience than the interns

give in restoring lives.

- Teaches that saving our wildlife, one life at a time, makes a difference and touches many lives.

The Interns' Perspectives

Dr. Anders Blaabjerg, of Denmark, says, "The first night I was on duty at Sonora, there was a big commotion and someone said they were bringing in a javelina for surgery. I was surprised because I had never heard this word—Javelina—in my medical training. When I saw it, I realized it must be a wild pig. I knew I would be learning many new things here.

"It is a good opportunity to be able to study these unusual animals. Most wild animals react differently to anesthesia and medications than domestic ones. I enjoy getting outside and working with wildlife at Southwest."

Dr. Rebecca Kagen is from rural Pennsylvania, where she spent a lot of time outside watching the animals in her backyard. "Animals of all types are fascinating and the loss of native wildlife and habitat is unacceptable. So conservation has always been very important to me."

She came to Sonora because she wanted a chance to work with a pathologist who bases his practice in Sonora's clinic. Dr. Kagen explains, "Pathology is one of my main interests. I also wanted a year of small animal medicine/surgery to pull together what I learned at

school while also doing some exotic species medicine. Sonora offers a ton of surgery opportunities while giving me some time to spend at Southwest Wildlife. For my future career, it is good to spend some time in the field. I learn something about the practical aspects and limitations of disease management in wild animals.

"Wildlife medicine is different from working on pets because you have to really consider how to handle these animals and how your treatment plan can be adapted to work for the animal and its caretaker. For example, you can't just restrain a cougar for an exam and then prescribe twice daily injections. I have to think about things differently, which is hard, but interesting." After her internship, she plans to do a



Dr. Velguth performs surgery on a coyote in Southwest Wildlife's on site surgery suite.

residency in zoo and wildlife pathology, as she is especially interested in wildlife disease and public health.

Another intern, Dr. Carrie Velguth, of Washington D.C., has had an interesting career path. After working as a Japanese translator, a journalist covering international conservation issues, and a volunteer at the National Zoo's hospital in Washington D.C., she decided to become a vet. She chose Sonora for her internship

because she likes deserts and it is one of few private practices that offers experience with wildlife.

"An internship is sort of like boot camp—very intense, with long hours. Working at Southwest Wildlife has been the highlight of this year. It has given me a chance to work with a wide variety of animals in a more natural environment. I enjoy the ones that are not glamorous such as bats, toads and Gila Monsters," confides Dr. Velguth. "My first day at Southwest, I worked on a Giant Colorado River Toad who unfortunately popped up in the middle of the wolf pen. He had a lot of bites and didn't survive. I also enjoy coyotes and respect them as survivors. It is nice to see a basic canine design that is functionally efficient, in contrast to many domestic dogs that have human-caused health problems due to breeding and diet. I tend to like grumpy animals and I'm in love with javalinas," she adds.

Her most unusual experience is working with a javelina whose nose keeps falling off. The intern explains, "This javelina probably ran into a fence because its snout was practically ripped off. The tissue is still alive, but the nose is slipped off to the side. We have re-attached it several times. But once the snout starts healing, she starts trying to root around and knocks it off again. So last time we stapled big metal rings around her nose and put a bucket on her head. She looks like one bad, punk pig."

Dr. Velguth says, "Linda's dedication to each animal is remarkable. I really respect her dedication, as well as



Doctors Kagen and Blaabjerg work on a javelina.

the opportunity she provides for us to get direct exposure to wildlife." Eventually this intern wants to work in conservation medicine. "I believe that environmental health, the health of wildlife species and human health, are all linked. Habitat destruction directly affects population health."

Other interns currently doing rotations at Southwest Wildlife include: Dr. Lisa Thompson of Utah, who

plans to volunteer at a wildlife rehab facility near the emergency critical care hospital where she will do her residency; Dr. Tom Chomeczynski, who will return to Poland after his internship; Dr. Ayman Wassef, from Egypt; and, from Japan, Dr. Akiko Mitsui.

Director Searles says, "Our hope is that wherever these interns go in life, they will take the knowledge that they gained at Sonora and Southwest to help rehabilitant centers, zoos, and conservation programs in their communities." Many of them have, including: Dr. Leo Egar, who is the western regional veterinarian for the Humane Society of the U.S. and does mobile spay and neuter clinics in poor rural communities throughout the southwest, recently cared for many animals that survived the Tsunami, including the elephants that broke their chains and ran to the mountains; Dr. Adrienne Leki, who has received a residency in zoo and wildlife medicine; Dr. Lilian Rizzo, who now works at Sonora, where she cares for wild animals and supervises new interns; Dr. Chris Heinritz, who volunteers at Southwest occasionally while she does her residency; and Dr. Yael Bar-Shalom who continues to volunteer at Southwest one day each week—on her day off from work as an emergency room vet!

Of course, these opportunities would not be available, to the wildlife of the southwest or the interns, without the invaluable commitment and cooperation of Sonora Veterinary Specialist Hospital. Thanks, Sonora!

BOOK REVIEW

CWD

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(CJD), which occurs in humans. CWD affects the brain and nervous system of members of the *cervidae* family, which includes deer and elk. Currently, only three species in the *cervidae* family are known to be effected: the mule deer (*Odocoileus hemionus*), whitetail deer (*Odocoileus virginianus*), and the Rocky Mountain elk (*Cervus elaphus nelsoni*).

Early symptoms of CWD may include low weight, poor hair condition, visible salivation, excessive drinking, loss of fear of humans, and stumbling gait. Ultimately, the animal quits eating and slowly starves to death.

The origin of chronic wasting disease is not known for certain. However the disease originated, a more immediate concern is how we can eliminate the spread of this disease.

The first signs of CWD were recorded in 1967, in animals that were contained with in a captive wildlife research facility near Ft. Collins, Colorado. In 1980, further signs of CWD were reported from a similar research unit located in southeastern Wyoming. Because these two facilities were known to have exchanged individuals for breeding purposes, researchers quickly realized that this disease was infectious—and not limited to deer, as the first signs in elk were reported as well.

By 1985, CWD was found in free-range populations of deer and elk near both facilities. It is not known if the disease started in the captive or wild populations but, because there were many opportunities for interaction between the two populations due to open fencing and common feeding grounds, this issue seemed to quickly become irrelevant. The disease soon gained the label of an epidemic.

The thousands of game farms within the United States and Canada are thought to be a major source for the spread of CWD. At some point, each of these facilities had to obtain a breeding pair or population, which may have been infected. The high rate of trade of the meat and antlers from these facilities also gave the disease many opportunities to easily spread. Until relatively recently, trade regulations of animals between states were not strictly enforced or were simply not present.

Not much is known about exactly how CWD is spread because of lack of research on the disease.

Don Coyote: The Good times and the Bad Times of a Much Maligned American Original

by Dayton O. Hyde

This book is a classic, a true story about a rancher who learned a monumental lesson about his place in nature from the coyotes on his ranch. The author is now running a wild horse rescue in South Dakota.

If you love coyotes or know someone who does, you must get this book. If you know someone who hates coyotes, you must get them this book.

Notable Quote

“I believe that there is a subtle magnetism in nature, which, if we unconsciously yield to it, will direct us aright.”

Henry David Thoreau

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You may also make donations online at: www.southwestwildlife.org

According to information found on the Arizona Antelope Foundation web page, the most common form of transmission of CWD is thought to be from animal-animal contact, through saliva, urine, and feces. It is also thought that CWD can be spread from infected surfaces, including soil.

Since the first signs of CWD, people have taken great efforts to control its distribution, including killing entire deer and elk populations. More recently, restrictions have been placed on the transportation of deer and elk, not only from state to state but within states as well, efforts have been made to increase hunter awareness, and known infected environments have been treated with chemicals—with what seems to be little success.

Despite the traumatic effects this disease can have on our deer and elk populations, a major concern to humans is the spread of this disease to us. Although CWD and CJD belong to the same family, the research that has been done has shown that humans are not in direct danger of infection. Chronic Wasting Disease has not been shown to lead to Creutzfeldt-Jakob Disease in humans. This, however, does not suggest that it is safe to harvest infected animals.

CWD has not yet appeared in populations of deer and elk within the state of Arizona and great efforts are being made to keep it this way. In May 2002, restrictions on the importation of certain members of the *cervidae* family into the state of Arizona became law. Efforts are also being made to educate Arizona

hunters to recognize the signs exhibited by infected animals and to not harvest those individuals, but report them immediately to the Arizona Department of Game & Fish.

One of the difficulties in dealing with CWD is that there is currently no testing available for live animals, so sampling existing populations for presence of the disease is not possible. To help deal with this problem, the Arizona Department of Game and Fish started a survey program in 1998. According to their web page, as of February 16, 2005, the department has found no evidence of CWD in animals from Arizona after sampling 3,511 deceased deer and elk.

It seems that our best current defense against Chronic Wasting Disease is awareness. Public awareness is always a good foundation in the prevention of disease. However, much research has yet to be done on Prion diseases, specifically Chronic Wasting Disease, to help eliminate the threat.

Further information about Prion diseases and their threats to humans and animals can be found both online and in a library. Online sources include: The Arizona Game and Fish Department (www.azgfd.gov), The Arizona Antelope Foundation (www.azantelope.org), the Center for Disease Control (www.cdc.gov) and the Chronic Wasting Disease Alliance (www.cwd-info.org). If you see a deer or elk with the symptoms of CWD, please call the Arizona Department of Game and Fish department at 1-800-352-0700.



Southwest Wildlife

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“Thank you” to the many Eagle Scouts who continue to build houses, benches, signs, and storage containers for our animals, earning their Eagle Scout Badges.

“Thank you” to all of the hardworking volunteers at Southwest Wildlife for your continued dedication to “saving our wildlife, one life at a time”.