

ELEPHANTS IN ZOOS: PAIN AND SUFFERING

Pain is the terrible consequence of degenerative joint disease and foot disorders that elephants are forced to bear. Elephants have been recorded and observed going to extremes to shift pressure off painful feet and joints and to adopt unusual and pathetic stances to escape the pain. (See case studies below on Pet, Oregon Zoo; Gita, Los Angeles Zoo; Toni, National Zoo; Clara, St. Louis Zoo.)

Advanced stages of degenerative joint disease may cause chronic bone pain and lameness, despite the use of anti-inflammatory medications (West. 2006). IDA'S survey of zoo medical records found that the most common causes of pain appear to be joint and foot disorders and colic. However, foot disorders and degenerative joint disease clearly inflict the greatest and most prolonged suffering. Elephants very often endure both ailments. Commonly prescribed medications include ibuprofen, phenylbutazone, acetaminophen, ketoprofen, and banamine.

Behaviors indicative of pain include weight shifting from foot to foot, lifting the foot consistently, leaning against bars, wall or even another elephant, using the trunk as a "crutch," resting the head on a gate or fence posts, difficulty ambulating, increased recumbency, absence of recumbency, increased time spent in a pool, and lack of appetite.

Excerpts from Medical Records

JOINT PAIN

CASE EXAMPLE: *Siri is a female Asian elephant at Rosamond Gifford Zoo who suffers from arthritis. She leans and weight-shifts to alleviate pressure on the fore-limbs. Veterinary records note Siri has been "painful" and sometimes does not lie down to sleep. Phenylbutazone was administered and later Ketoprofen. Siri also displays "head resting," a behavior displayed during pain in her front legs. Siri will put her "right foot up and hold it without weight or crossed over her left foot for up to 1.5 minutes at a time." (Exhibit 1, Rosamond Gifford Zoo)*

FOOT PAIN

CASE EXAMPLE: *Calle, a female Asian elephant at San Francisco Zoo (died 2004), suffered from severe foot and joint disease.*



Calle's feet before her death



Normal Asian elephant foot

*She had stopped lying down sometime in the fall of 1993. Toward the end of Calle's life, zoo veterinary records describe frequent episodes of discomfort where she would **literally wince and cry out in pain**, despite the administration of NSAIDs and pain relief medications. Calle was reported to be leaning her head and trunk on the bars of her enclosure to take weight off her feet and joints, and wrapping her trunk around the bars to stabilize herself.*

CASE EXAMPLE: *Casey, a male African elephant (died 2003), suffered from foot problems for 22 years, including a chronic abscess on the left foot for 15 years. He also was afflicted with degenerative joint disease. There is evidence that foot treatments were painful. Veterinary records state: "Keeper reports seems painful when flushing open abscess on left front foot and objects to flushing it." (2001) Casey was also reported to be crouching prior to placing his feet in soaks, had difficulty putting weight on his front feet, and experienced shakiness and difficulty raising feet for treatment. At the end of his life, Casey was clearly in pain and appeared lethargic and depressed. Shortly before his death, he was observed to be "wobbly" and "standing stretched out, lifting right foot consistently. Keeps touching trunk to left front leg and wrapping it around the elbow." Casey was observed "standing outside resting head on gate 90 percent of time."*

CASE STUDIES:

- **Pet, 51 at death, Oregon Zoo**

Asian Elephant

Wild Caught

Pet suffered for years from severe foot disease – recurrent lesions,, abscesses, ulcers, defects, cracked and undermined nails, etc. that required almost daily intervention from keepers. She also had severe arthritis. Pet was euthanized on Aug. 2, 2006. **She was the third elephant to be euthanized by Oregon Zoo in the last ten years due to foot disease.**

Pet's veterinary records are rife with examples of pain and suffering caused by her chronically infected feet. There are voluminous notes about cleaning out infections, lesions and pockets in her feet and constant debridement of lesions– cutting away of dead, necrotic tissue. There are numerous references in the records to pain that Pet is in after what vets term "atraumatic foot trims." They note that she remains in "prolonged

lateral recumbency after foot trimmings.” At one point (Dec. 21, 2002) vets note that a lesion covering 20 percent of Pet’s caudal sole would not be debrided as “it would leave no protective layer for Pet to stand on.” On Dec. 24, 2002, the records indicate that the 10 cm defect on this foot had left the fatty tissue under the skin exposed. Pet’s feet were so damaged that she was frequently made to wear sandals.

A March 9, 2002 note in the records diagnosed her with “severe DJD (Degenerative Joint Disease) in all four limbs” and a June 12, 2002 entry noted “chronic debilitation and multiple joint pain.” Radiographs of her feet show complete collapse of intercarpal joint spaces, bone lysis and osteophyte formation. A February 8, 2001 entry notes that the DJD is “probably a result of poor conformation, age and **having lived most of her adult life on concrete and asphalt surfaces.**”

Notes throughout the records indicate that Pet was in **significant pain**. Keepers observed her **using her trunk as a crutch to take weight off her right front foot** and she would also lean against the bars of her indoor enclosure also to take weight off her feet. She regularly lifted her right foot every 30 seconds or so, clearly indicating pain. Pet was on high doses of many kinds of pain medications, including Ibuprofen, Legend, and Adequan. Butorphenol, an opioid painkiller was also used frequently, causing Pet to appear “drugged” at times.

Pet developed **pressure sores** from lying on her left side on the hard indoor floor. Although veterinarians recommended a softer surface for Pet to lie on, it does not appear that the zoo was able to provide this for Pet.

Most disturbing, this clearly tormented elephant suffered from **numerous wounds to her skin as a result of aggressive ankus use**. On ten separate occasions between 2000 and 2005, veterinarians diagnosed ankus wounds (abscesses, punctures penetrating dermis, lacerations, lesions) on her trunk, feet, shoulders, head, back, hip and ear. On Nov. 22, 2003, veterinarians reported “**a problem with ankus use on Pet**” to curatorial staff. Keepers acknowledged using the ankus more on Pet, in chronic pain from severe DJD and foot disease, to “maintain her activity level so she just doesn’t stand around.” The veterinary records indicate that it would be nice to accomplish this “in a manner which causes less trauma to her skin.” A Dec. 21, 2003 entry indicates that “**Pet may have sustained numerous new ankus contact injuries today** as keepers communicated poorly about commands given and **Pet was reprimanded** in the process.”

In 2000, the Oregon Zoo was charged by USDA for violating the Animal Welfare Act in the abuse of Rose-Tu with an ankus, but these serious charges do not appear to have had an impact on Portland keepers, as Pet’s records show ankus abuse continuing.

Despite all of Pet’s problems, on July 6, 1999, she was chained for a reproductive exam. Vets concluded that “**her reproductive tract would probably be healthy enough to carry a pregnancy, unfortunately her feet are not.**”

Also, in Dec 2002, the zoo decided to put the debilitated Pet in with Rama, a young bull,

to reduce his “stereotypical swaying, which is causing him foot wear problems.” Vets speculate that the pairing might make Pet move more too but worry that “Rama may be too rough with old Pet.” Later entries indicate that Rama had pushed Pet around, opening an abscess on her back that had formed due to an ankus wound.

At the end of her life, Pet was moving very slowly, shuffling her feet, not bending either carpus, and **bracing herself with her trunk**. She had difficulty walking on the sand exterior, and would not move for long periods of time when outside. About two weeks before she was euthanized, morning keepers found Pet “standing with her front limbs in a depression that she had dug out by throwing sand on her back. Apparently she had stood in the same place without moving for a long time and had excavated a depression around her front feet.”

In recommending euthanasia, the veterinarian wrote, “**Pet appears miserable and chronically in pain.**”

The treatment of Pet in these final months is shocking. She spent years lying on concrete, yet even as the pressure sores worsened, zoo staff was apparently hesitant to bring in dirt or sand for Pet to lean up against or lie upon. In her medical records, the veterinarian wrote, “**Need to get her a soft place to lie down. Need to get curatorial and keeper buy in to make this happen.**”

This crippled elephant was still being forced to go through her training routines, and in Nov. 2005, she sustained the last of many **ankus injuries**, a wound under her trunk that “corresponds with probable ankus tip poke wound (prompting trunk lifting) and keepers believe ankus injury is the cause.”

Despite Pet’s extremely debilitated state, the zoo subjected this 51-year old elephant to another **transrectal ultrasound/reproductive exam by Dr. Schmitt on May 4, 2006 – just 3 months before she would be euthanized**. They concluded, “No reproductive abnormalities noted, although will not be bred due to age and severe DJD.”

In June 2006, Pet was put in with Packy, who had been rough with her on previous occasions. Packy “traumatized her tail head” during this encounter.

On August 2, 2006, Pet was euthanized. Her last act was to obey her keepers command to go into the “half” position (on elbows resting rear on left side of her rump/thigh) so that they could inject the drugs that would eventually end her suffering.

- **Toni, 39 at death, National Zoo**
Asian Elephant
Wild caught.



Photo: Peter Granli, Elephant Voices

Toni was a severely debilitated elephant who suffered from “chronic,” and “severe” osteoarthritis in multiple joints, nail abscess, and thin pads on feet from “overpacing markedly.” In her final months, she suffered a weight loss of 900 pounds “probably associated with the arthritis.”

The veterinary records indicate that that Toni was on Ibuprofen between 1997 and March 2001. The medication was discontinued because of suspected kidney toxicity.

Toni was plagued by “acute lameness” from April 10, 2005 until she was euthanized on January 25, 2006. In July 2005, she was put back on Ibuprofen. From this time, she was treated with increasing doses of Ibuprofen, intravenous administration of Legend (an anti-inflammatory commonly used in horses), intramuscular injections of Adequan (anti-inflammatory drug commonly used to treat canine arthritis), and oral doses of Cosequin (a supplement intended to halt joint damage.)

Toni also had foot disease, with irregularly thin pads on her feet and “inflated areas giving impression of bubbles below the sole” possibly due to “overpacing markedly,” according to her 2004 physical exam. At the time of her death, she also had a nail abscess (first identified in October 2005) that had turned the nail black and was backed by a 13 cm x 15 cm sole depression.

In April 2005, Toni developed a tusk infection that continued through her death. Keeper notes indicate that Toni banged the area and that it was swollen. Her necropsy indicated that the infection had invaded the bone of her jaw. (“Osteomyelitis maxilla)

In July 2005 Toni’s condition was observed to be “**generally declining. . . Elephant seems old although is 40 years old.**”

In August 2005, the records indicate that Toni was lame in her **right front foot** and “leaning against wall to relief weight from rear end”.

At the end of her life, Toni was emaciated and obviously in extreme pain. She could not bear weight on her front legs and could barely walk. She would lean her back end against

the wall, her elephant companion or sit down on an old tire in her yard. She was observed leaning her head against the bars of her cage.



Photo: Peter Granli, Elephant Voices

In January 2006, Mel Richardson, DVM, a zoo and wildlife veterinarian, and Joyce Poole, Ph.D., research director of the Amboseli Elephant Research Project in Kenya visited the National Zoo and observed Toni. Both of these experts had observed and worked with numerous elephants over the course of their 30-year careers. And both were shocked at Toni's debilitated condition.

Dr. Richardson wrote, "When I saw Toni on January 4th, 2006, I was appalled. I have never seen an elephant in such a debilitated condition. . . . The fact that I could see her spine, shoulder blades, and hip bones was beyond belief. I had expected her to be in poor shape; but this was more than I could have ever imagined." As to the cause of Toni's debilitated state, Dr. Richardson was clear:

Whenever possible we as veterinarians are trained to prevent pain and suffering, not just treat it. Why are the veterinarians at the National Zoo not preventing the painful degenerative arthritis in their elephants like Toni and Ambika [Toni's yardmate]? They cannot! Because the cause of the crippling degenerative joint disease is the exhibit itself: the concrete; the packed unyielding abrasive substrate inside and outside; the lack of exercise and normal use of the elephant's feet and limbs – climbing, digging, walking, wading into streams, kicking logs, and foraging. . . . [Elephants] evolved to travel miles each day on uneven natural substrate using their feet to find and apprehend food. To keep them healthy we must provide that opportunity as well. The zoo exhibit itself is the cause of the Degenerative Joint Disease. **The zoo exhibit itself is killing her.** And treating these elephants like Toni and Ambika with long term, high dose NSAID, in an effort to control their pain, is contributing to their agony not alleviating it.

Dr. Poole concurred with Dr. Richardson's opinion:

Although I already knew that 39-year old Toni had severe arthritis, I was not prepared for what I witnessed at the enclosure. In all my 30 years observing wild elephants, I have never seen an elephant as crippled as Toni.

Although the zoo blamed Toni's arthritis on an injury she sustained at Scranton Zoo, the lack of space and hard substrates (cement indoors, hard compacted earth outdoors) at National Zoo exacerbated Toni's condition by preventing her from exercising and walking (thus causing her muscles to atrophy, placing increased pressure on her joints) and forcing her to stand on unyielding surfaces, which also put more pressure on her joints. (Richardson, 2006, Poole, 2006).

Wild elephants have sustained injuries similar to Toni's and have been able to move and lead productive lives. Dr. Poole's report (Exhibit G) includes photographs of one such elephant, Xala, age 43, who sustained a broken ankle similar to Toni's injury over 20 years ago. Despite this injury, Xala was able to keep up with her family, reproduce and successfully raise offspring. The difference in condition between these two elephants is striking.

▪ **Clara, Age 53, St. Louis Zoo**

Asian elephant

Wild born



Clara's condition graphically illustrates the effects of long-term zoo captivity on an elephant. She resides at St. Louis Zoo, where the largest outdoor yard is half an acre. She is confined indoors at night to a concrete-floored barn stall. In addition, the cold climate in St. Louis means that Clara spends long stretches of time indoors during winter.

After five decades in this zoo, Clara is severely debilitated. She suffers from severe foot and joint disease. She has had recurring abscesses of both back feet for at least six years (from the onset of the records). Her left foot has a serious defect – a 1.5 x 5 cm fissure near her middle toe.

Clara has also suffered from decubital sores (bedsores) on the left side of her face, her left elbow and left hip as a result of “prolonged recumbency” (laying down a lot) presumably due to foot pain.

Clara wears sandals on both back feet due to the chronic abscesses.



Prior to the sandals, a boot was placed on Clara's abscessed left foot. A note in the records from April 2000 indicates that when a boot was first placed on this foot, Clara removed it and "rubbed sole on chain until moderate hemorrhage." Chaining of course would only worsen Clara's problem and the fact that she rubbed her foot to the point of hemorrhage is an indication of the degree of discomfort she has experienced.

Notes indicate that Clara has arthritis as well. Her left leg has had a problem with swelling. Signs that Clara is in pain include direct mention of pain in the medical records: "arthritis pain" on 8/1/01, and "pain management" on 4/28/05. In addition, the records include entries noting "prolonged recumbancy" (lying down) leading to pressure sores, and prolonged use of non-steroidal anti-inflammatory drugs (NSAIDs).

Clara's foot infections are treated with antibiotics, foot soaks and trimming the necrotic tissue from her foot. Her foot pain and arthritis have been treated with banamine and phenylbutazone, two Non-steroidal Anti-inflammatory Drugs (NSAIDs).

Long-term NSAID use has caused kidney damage and bleeding ulcers. These side effects have prompted zoo personnel to **"discuss risks of continuing long-term treatment with NSAIDs vs. welfare issue of allowing animal to live with chronic pain."** (Aug. 6, 2005)

There are also a few notes in Clara's records that suggest aggression between elephants is occurring. Ulcers inside Clara's mouth along the lower mandible were thought to be related to "trauma." (Dec. 2001). A note about abnormal blood test results showing monocytosis, neutropenia, and lymphopenia are thought to be a "lab error, effects of chronic inflammation or result of **recent stress in barn.**"

Clara is has abnormalities of her reproductive tract. "This Asian elephant has significant uterine and vaginal gross pathology, making her an unlikely reproductive candidate . . . The intramural lesion, consistent with a leiomyoma is often seen in Asian elephants. The endometrial cysts, commonly seen as part of the cystic endometrial hyperplasia complex are more common in African elephants, although they may commonly occur in Asian elephants. The etiology is currently unknown, although **continued cyclicity is a presumptive cause.**" (no pregnancies or nursing of young) (Dec. 18, 2003)

In 2005, Clara was treated with anti-tuberculosis drugs (isoniazid and Rifampin) after “repeated positive PT and MAPIA serology for mycobacterial antigens.” (Sept. 7, 2005). These drugs were discontinued two months later after Clara began refusing food. The records note “Ok to stop anti-Tb meds pending discussion with curator re: test results, quality of life.” Clara’s appetite returned after the drugs were discontinued.

Clara’s condition has deteriorated for years. She moves slowly due to foot and joint pain. Yet the zoo considers her normal for her age. “Animal is in good general condition for her age.” (Feb. 2004) “Decreased muscle mass as expected for geriatric state.”

Gita, age 48 at death, Los Angeles Zoo

Asian elephant

Wild caught

At LA Zoo since 1959



Gita was taken from her family in India and put on exhibit at the L.A. Zoo at less than two years of age, where she has since been confined to small exhibits

According to former zoo personnel, Gita and the other elephants were kept in chains for 12 to 14 hours overnight, a practice that lasted for years. Today, her body shows the results of her being forced to stand on hard surfaces such as concrete in cramped quarters and the years of being chained. She suffers from chronic infections of the foot and bone and arthritis – foot problems and arthritis are the two leading causes of euthanasia in captive elephants in the United States.

- **Gita suffered from painful, chronic foot abscesses in the nails and soles of the feet since at least 1976, while still in her teens.** Abscesses have generally involved more than one toe and often on more than one foot. Through the years Gita suffered *continuously* from this condition, which was been accompanied by lameness.
- **Arthritis was first recorded in Gita’s records in 1985, while Gita was in her twenties** and has been evident ever since.

- Gita was been treated with pain killers and anti-inflammatory drugs for years. A December 2005 L.A. City report stated that medications to treat Gita’s foot and joint problems totaled \$8,000 per month.” Drugs include the NSAIDs (non-steroidal anti-inflammatory drugs) Banamine and Phenylbutazone, the latter of which was administered both for arthritis as well as “acute pain” from the constant cutting away at Gita’s abscessed feet.
- Gita may have suffered from prolonged use of antibiotics, antifungals, NSAIDs, and pain killing drugs, which can damage the liver and kidneys. In the December 2005 L.A. City report, medical information for Gita included: “Changes consistent with chronic inflammation, possible chronic liver damage and/or reflecting the chronic administration of anti-inflammatory drugs, antibiotics, and antifungal drugs, are enhanced in 11 Nov. sample.
- By November 2005, the infection in Gita’s foot had invaded the bone and she underwent surgery to remove part of a toe on her left front foot.
- Following the surgery, the zoo continues to report that Gita is doing well, but by January 2006, Gita is observed leaning up against bars, which results in skin ulceration on right rump. This is possibly an indication that Gita was likely trying to take pressure off painful feet and/or joints.
- In March 2006, Gita develops an ulceration at the head of her tail. Clinical notes indicate that it is painful. At the time, Gita was on both antibiotics and NSAIDs, and keepers lifting Gita’s tail to insert antibiotic suppositories was potentially associated with this lesion. This tail abscess would grow to 17 inches long by 22.5 inches wide in the next month.
- On June 9, 2006 Gita was observed in a “downed” position at 8:45pm by a Zoo security guard. The Guard relayed the information to the night keeper, who apparently failed to take action. Gita was left unattended and unable to rise for more *than eight hours. (This information is not initially released by L.A. Zoo.)*
- Morning keepers find Gita down at 5 a.m. **The zoo veterinarian** arrives at 7:30am. Gita dies at 9:40am due to damage to her muscles from being down for so long (“toxins from her muscles flooded her system and caused vascular distress” - L.A. Times, 6.11.06).
- According to zoo veterinarian Stephen Klause, "Gita has not laid down for years." Zoo director John Lewis had stated earlier this year, “Gita has not been lying down for years. Mostly related to her arthritis, not the current injury.” (Board of Zoo Commissioners Meeting Minutes, January 17, 2006, p. 13)
- Gita’s necropsy report identifies “Extensive... severe to very severe Degenerative Joint Disease [“arthritis”] involving right radioulnar-carpal joint [“wrist”] (very severe); and right and left intercarpal carpometacarpal, metacarpophalangeal [both front feet] and stifle [knees – rear legs] joints (severe).”

Former LA Zoo vet Gary Kuehn stated that the arthritis in Gita’s front legs and feet would have been extremely painful, especially as she suffered bone-on-bone contact in the right leg. Nonetheless, Los Angeles Zoo states: “Foreknowledge of these

findings would not have changed the course of Gita's care and treatment." Indeed, this is a sad admission on the part of the Zoo, says Dr. Kuehn.