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**15 November 2021**

**ELEPHANT CONSULTATION REPORT**

FOR

**EDMONTON VALLEY ZOO  
EDMONTON, ALBERTA**

FOR

**FEMALE ASIAN ELEPHANT  
“SKANIK”  
(aka “LUCY”)**

ON

**18 & 19 October 2021**

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## **Introduction:**

I examined Lucy at the Edmonton Valley Zoo in Edmonton, Alberta, Canada on 18 and 19 October 2021. Present for the examination was Dr. Marie-Josée Limoges, Edmonton Valley Zoo's Veterinarian and the Elephant Care Staff. Also present was an Elephant Care and Management Specialist. This was my 12<sup>th</sup> examination of Skanik, a 46 year old, female Asian Elephant, who is also known as Lucy, since my first exam of her in 2002.

In July of 2002 the Zoo asked me to examine her and to evaluate the problems that she was having with her feet and to develop an action plan for her—which they followed and she returned to good health.

Then in September of 2009 I was asked to assess her overall health and to help them evaluate her respiratory problem that had developed and to examine a retained, deformed molar tooth.

In January of 2011 I was asked to be present for another exam of Lucy's respiratory issues and to attempt to collect diagnostic samples.

My last exam of Lucy was done approximately 24 months ago on 19 September 2019.

This report is my written evaluation of her current condition as found by my exam done on the 18<sup>th</sup> and 19<sup>th</sup> of October 2021 and my recommendations for a continuing management plan for her.

## **History:**

Lucy has lived at the Valley Zoo in Edmonton, Alberta for 44 years. She came to the Zoo as a two year old orphan.

In 2002 when I first saw her, she had foot problems that were solved by changing their foot care program, adjusting her daily husbandry, increasing her exercise schedule and reducing her weight.

In 2009 I was asked to come to Edmonton to evaluate her for an abnormal molar tooth and a respiratory problem. The abnormal tooth had been shed by the time I arrived. At that time she was exercise intolerant to the point that she would have to breathe thru her mouth in order to catch her breath after a short walk. And when we explored her trunk with a 3 meter endoscope we discovered a narrowing of the nasal passages at the extent of the scope. A cause for the constrictions could not be determined because our view was obstructed by thick white exudate. It could not be determined if the tooth had any association with her respiratory problem. We determined at that time that her respiratory problem precluded her from being placed under any type of stressful situations, such as trying to move her to a different facility.

Since her respiratory difficulties continued, I was asked to be present for another exam by Dr. Milton Ness (former Edmonton Valley Zoo Veterinarian) and Dr. Jack Ingram (consulting Equine Veterinarian) on 31 January 2011. This exam revealed that her nasal constrictions continued, but the inflammatory process had diminished due to the treatment protocol that Dr. Ness had instituted.

In 2015, the Zoo requested that I come to Edmonton twice, once in the winter and once in the summer, to examine Lucy and to examine her condition in both cold and warm conditions and to evaluate her facilities and the staff's management plan for her. Since then, I have examined Lucy each year, except for 2020, which was cancelled due to the COVID epidemic.

## **18& 19 October 2021 Overall Findings:**

Lucy, as in past exams, is still a calm, gentle elephant that is managed in a "free contact" system. She is in good over-all body condition thanks to the Elephant Care Staff's diligence in following the current plan for her. She is at a weight that has increased a bit since last year, but still has good flexibility as evidenced by her ability to get up and down with minimal effort. She still has some stiffness in her right carpus and left shoulder. Unfortunately, she still has a severe constriction of her nasal passages that affects her ability to breathe properly. The white exudate that was seen in 2009 continues to be present. As before, she mainly breathes thru her mouth, not her trunk, and if she walks too fast during her daily exercise, she has to stop and resort to extreme open mouth breathing to restore her oxygen deficit. Elephants are obligatory nasal breathers, so to see an elephant breathe through her mouth is quite alarming. Simply walking her around elicited the exaggerated open mouth breathing. She also has continued dental issues.

Current issues also include: occasional vaginal discharge with odor & occasional blood (possible uterine leiomyomas); occasional signs of colic—stretching, yawning, rubbing abdomen; sleeping more—even on her left side, which is unusual, since she has previously favored sleeping on her right side.

### **Oral Examination:**

On oral exam, she was noted to have a continuing deformity of both upper and lower molars. On this exam, the lower molars were not visualized. The right lower retained, deformed molar was shed in 2018, thanks to the efforts of the keepers. Now the left lower deformed molar is in a similar situation. Both upper molars are abnormal in position and wear surfaces and appear to be static since they have not advanced since the anterior upper molars were shed, and in fact may be her final set of upper molars. The left upper molar now has a 90 degree twist.

### **Exam of Feet:**

Examination of Lucy's feet reveals that she has had attentive care, as evidenced by her clean nails and the nice, well cared for cuticles. The staff should be commended for their efforts. She has a soft spot at the pad/nail junction on nail #2 of her left front foot.

### **Evaluation of Lucy's Respiratory Problem:**

It appears at this time that the majority of Lucy's breathing occurs thru her mouth rather than her trunk. As in the past examinations of Lucy, after a short walk, she has to stop walking in order to "catch her breath". Elephants, being obligatory nasal breathers, should never have to breathe through their mouths. This indicates that she continues to have a constriction in her nasal passages, and the nasal discharge continues.

### **Facilities:**

Lucy's outside area consists of a large grass exhibit yard with a sand pile for resting, a pole structure, and shaded areas. She also has numerous exhibit enrichment items in her outside yard.

As part of the Plan for Lucy to increase her ability for exercise in the winter time, the Zoo built a 5,000 square foot heated building with a soft sand substrate several years ago. It continues to function well and is a great addition to the overall husbandry care of Lucy.

She will also go on daily walks in the Zoo with her keepers, weather permitting. The inside exhibit areas that are for public viewing, have a thick rubberized surface in the main viewing area and sand in the other areas. .

### **Treatments:**

Dr. Limoges currently has Lucy on a neurtaceutical for her joint issues. Lucy also gets acetaminophen and/or an NSAID as needed when she appears to have a painful episode. She is also being treated with physiotherapy and exercise for her stiff left shoulder and right carpus. And they have continued her program of daily exercise for her overall general health.

I administered no medications during my inspection.

### **Enrichment:**

As a solitary animal, the Elephant Staff have developed a program of enrichment for Lucy in lieu of another animal for her company. This includes the Keepers acting as her "herd mates", providing physical items, as well as mental stimulation as part of her husbandry program. The keepers have even developed a game of "hide and seek" with Lucy, that stimulates her to "run to find" her keeper.

### Weight Control:

On this examination, it is noted that Lucy's weight is still up a bit, with her current weight listed at 4,090 kg (9,000 lbs.). Even though she doesn't look over weight, the scales tell the story, so the Elephant Care Staff will continue to concentrate on trying to reduce her weight. Keeping her weight down and continuing her Exercise Program, will help her to tolerate her respiratory problem. Reducing her weight will be the challenge for the Staff and will require strict adherence to her prescribed diet and frequent weights. Her good body condition is evidenced by comparing photos of her taken nineteen years ago in July of 2002 during my first exam and how she looked in 2019.



**Lucy: 2002 vs 2019**

### Staff Instructions:

In my instructions to Staff, I reinforced the importance of movement, exercise and weight control in order for Lucy to better deal with her respiratory problem and any arthritic conditions that are present or may develop in the future. Feeding the prescribed diet is imperative, i.e. no food items that aren't on the approved diet list. She should continue to get tree branches to chew on and play with in order to see if we can get the potentially impacted left lower and left upper molars to loosen and exfoliate, like the right lower molar. I emphasized my concern for her dental issues. They will also continue to train her for trunk endoscopy without sedation and to commence training her for vaginal and rectal examinations in order to evaluate her for uterine pathology.

I commend the Elephant Care Staff on their dedication to give Lucy the best possible care that they can—both physical and mental. The Assessment section and the Proposed Plan section will detail my suggestions for the future.

### Assessments:

- Lucy's good nature and the ability of the handlers to work closely with her, continues to be the key to her ability to handle her respiratory condition.
- Short of bringing in another elephant or some other animal, the staff has maintained their status as Lucy's "herd" members.
- I did not observe any abnormal behaviors or signs of being stressed. The only time that she seems stressed is when she walks too fast and can't catch her breath due to her respiratory problem.
- Her respiratory problem continues to be serious. The continual presence of the exudate seen is problematic. Unfortunately, her current respiratory difficulties when lying down may indicate that her nasal constrictions are getting worse.
- Due to her breathing problems, stress or excessive exercise needs to be minimized. At the same time, **her controlled exercise program must be continued.**

- Lucy's weight has increased a bit and should be reduced over the next 12 months if possible, however, considering her age, her metabolism is probably slowing down, so weight reduction will be problematic.
- The keepers are taking good care of Lucy's feet with their current foot care program. Currently, her feet are in good shape. Her past nail defects will probably recur in the future, despite the efforts by the Staff, as they do in many older Asian elephants, and quite probably will never completely disappear.
- Lucy's upper molars are deformed with abnormal wear surfaces, especially the left upper molar, which has rotated 90 degrees. Both incoming lower molars were impacted and were starting to deform due to retained anterior lower molars. The keepers were able to get the lower right impacted molar out in 2018, just before we were going to perform an anesthetic procedure to remove the molar surgically. The left lower molar continues to be retained, which may result in the need for an anesthetic procedure in order to remove it, which would allow the incoming molar to advance normally. Her dental issues are an issue that needs to be addressed with Staff.
- As difficult and risky as it may be, due to her respiratory problem, we may have to consider an anesthetic procedure in the near future to surgically remove the retained lower left molar and possibly the upper left molar. However, she still is able to masticate her food well as evidenced by normal fecal boluses.
- The padding over the concrete floor of the indoor facilities continues to greatly reduce the abnormal pressures on Lucy's feet in the winter months. The sand area has worked out well, also.
- Overall, Lucy appears to be calm and well-adjusted in her current situation and is in good general condition for a 46 year old female Asian elephant, thanks to the care she gets from the Edmonton Valley Zoo Veterinary and Elephant staff.
- Her respiratory problem continues to be a severe problem that precludes placing her in any stressful situations, such as trying to move her to a different facility. She appears to be comfortable in her current surroundings, and is well cared for by her care takers.

### **Proposed Plan:**

- **Respiratory Problem:**
  - Continue to treat this as a medical problem, for now.
  - Continue periodic courses of antibiotics and anti-inflammatories as necessary to control the nasal exudate.
  - Consider repeating the trunk endoscopic exam, under standing sedation, or train her to accept the scoping without sedation, every few years, especially if the condition gets worse.
  - Maintain Lucy at the zoo due to her medical issues.
- **Weight Maintenance:**
  - Evaluate the current prescribed diet and feeding protocols to see if it can be determined why her weight has crept up recently. If it is due to her metabolism slowing down, maintaining her current weight might be the only option.
  - Continue her exercise program—with care not to over-stress her.
- **Foot Care:**
  - The Elephant Staff should continue their good foot care practices, paying special attention to the cuticles of her left front foot and the chronic soft spot on nail #2 of that foot.
  - Periodic radiographs of her feet should be taken to monitor any arthritic changes that might develop.
- **Exercise:**
  - Continue Lucy's exercise program despite her respiratory problem.
  - Be attentive to her need to catch her breath and if she has trouble doing so, discontinue the exercise session.
- **Periodic Mild Colic:**
  - Desensitize Lucy to rectal and vaginal palpation, so ultrasound can be done to evaluate her uterus for possible leiomyoma tumors, which can cause pain and colic signs.

- Perform fecal evaluations for Occult Blood, which may indicate the presence of a gastric ulcer, when she shows signs of colic.
  - **Dental Care Issues:**
    - Train Lucy to open her mouth wider for better examination and photographs and videos of her upper and lower molars in order to better monitor their status.
    - Continue to provide her with large branches to chew on to apply pressure to the impacted lower left molar and twisted upper left molar.
    - Attempt to loosen the retained left lower molar with a specially designed “crow bar” type tool.
    - Start discussing the need for an anesthetic procedure to better evaluate her dental issues and come up with a plan of action that takes into account the added concerns for anesthetizing an elephant that has respiratory issues due to nasal constrictions.
  - **Geriatric Care Issues:**
    - Due to Lucy’s advanced age, the Staff is aware that she will continue to develop “old age” problems associated with her respiratory problem, oral malocclusion, gastric issues, genital tract problems, toenail abscesses and arthritic changes that will involve her feet, legs and other skeletal joints.
    - Staff will continue to work with other institutions in trying to provide as much preventive care procedures as Lucy advances in age.
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**End of Report**

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15 November 2021**