

Assessment of female Asian elephant Lucy

Performed by: Charles Gray

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About Charles Gray

Superintendent of Elephants at African Lion Safari, Charles has worked hands-on with elephants since 1982. He has been the elephant manager at African Lion Safari since 1987. Charles is a founding board member of the Elephant Managers Association and is a founding and current board member of the International Elephant Foundation. He served on the Association of Zoos and Aquariums' Taxon Advisory Group for the Asian elephant species survival program from 1988-2019 and is a member of the Elephant Endotheliotropic Herpes Virus Advisory Group. Charles Gray was called upon to assess Lucy, her care program and facilities as an elephant management expert.

Introduction

With specialized husbandry techniques and veterinary care elephants live comfortably to a greater age in captivity. Older elephants present different challenges such as joint problems, foot issues, tooth and gastrointestinal problems and changes in temperament and behavior. Elephants are often good at masking a deterioration in health and condition. Health and welfare monitoring of older elephants is vital and may be required more frequently than in younger adult animals. The Edmonton Valley Zoo's animal care team have thoughtfully established a customized care program that reflects Lucy's unique circumstance and health condition.

Physical Condition

As an elephant ages, degenerative joint disease and foot issues can occur leading to a reduction in mobility as well as activity. Lucy had a fairly normal gait and decent mobility in her joints for an elephant of her age. She did not appear to be lame, stiff or sore.

Her feet were very well maintained and in good condition. There were no noticeable major problems with the condition of her feet and her keepers do a good job with her routine foot care. She has a soft spot in her pad behind nail #2 of her left front foot which her keepers are very aware of and are managing it well.

Lucy is bathed and scrubbed regularly by her keepers and her skin is in very good condition because of this. Lucy's teeth are very misaligned and malformed. Her keepers remove debris trapped between the teeth regularly.

Lucy predominantly breathes through her mouth which is very unusual for an elephant and her respiration rate is very slow and loud. Any exertion causes her to breathe exclusively from her mouth and she needs to rest and recover before she can continue. Given her compromised breathing, her keepers deserve credit for their careful approach with exercise which has resulted in the effective management of her weight. Maintaining an appropriate activity level through an effective exercise and training program is supporting her mobility and flexibility. She has a constant exudate of mucous from her trunk which increases in frequency and volume with activity.

It is common for older elephants to experience a reduction of grinding surface, misalignment, malformation or even loss of molar teeth, and chewing efficacy can be significantly reduced. This can result in constipation caused by increased faecal fibre length and may lead to colic symptoms if the elephant is not masticating and digesting its food properly. Lucy's care team regularly monitors and documents her molar status as well as her faecal quality, size, and shape. Should she start showing signs of improper mastication, the composition of her diet will be adapted which may include chopped hay and utilization of stool-softening supplements such as flax seed, bran and vegetable or mineral oil. Lucy does have good body condition and her nutritional needs are met. Her keepers report she does have episodes of gastrointestinal upset of varying intensity and duration. She seems to be able to masticate and digest her food normally judging by the amount and consistency of her feces that I observed.

Resting/Sleep

Due to joint stiffness and/or aches, geriatric elephants will modify their resting behaviour. To support her comfort, Lucy is provided with sand piles and slopes for lying down as well as areas where she can rest by leaning on structures which can support her. The soft substrates in her enclosures provide comfort for her feet and joints and her sleep is monitored routinely with time spent lying down, length of sleep and side preference recorded. Geriatric elephants can experience "bed sores" if they lay on one side for longer periods of time or if the substrate they lay on is too hard or abrasive. Lucy's quarters have prevented this as they offer ample opportunities for her to rest by leaning or lying down on soft non-abrasive substrates.

Care and Management

Lucy is a very calm and gentle elephant. During my visit she was very alert, bright and engaged with her keepers. I did not observe any abnormal behaviors or signs of stress. I did not see any evidence of stereotypic behaviors and she seemed very well adjusted and content. She has an excellent relationship with her keepers and vice versa. They know Lucy very well and are constantly monitoring her physically and behaviorally. They do an excellent job keeping her stimulated and engaged. They are very attentive to her behavior and any changes to her condition. The keepers communicate very well with each other to keep updated on Lucy's condition and activity. The amount of attention and care Lucy receives is to be commended.

Facilities

The indoor quarters for Lucy were very clean and in good repair. The floors are well cushioned and she has a sand pile which she uses for sleeping. Her activity is monitored by camera through the night and recorded. Lucy has a separate heated building with a sand substrate which her keepers take her to on a regular basis.

Lucy has regular access to her outside yards when the weather permits and it contains features to keep her comfortable such as a sand pile, shaded areas and grassy areas. To keep Lucy mentally stimulated she has access to many enrichment items to play with.

Lucy is taken on regular walks through the zoo grounds for exercise and mental stimulation. The keepers take great care to monitor her constantly and give her time to rest and catch her breath. She enjoys these walks very much and has opportunity to graze on grass and browse on leaves and branches.

Recommendations

Maintain the diet and exercise program to keep Lucy in good body condition while being mindful of her limitations due to her breathing issues. Consider increasing frequency and decreasing duration of exercise sessions (more sessions of shorter time).

Consider training and desensitizing Lucy for administration of rectal fluids and transrectal ultrasound examination of her reproductive tract.

Consider developing a pool or bathing area for Lucy with a maximum depth of 5 to 6 feet. Ideally this amenity would be available for year round use so it will need to be contained in a heated structure. This would provide an enriching experience for her, allow for low impact exercise as well as give her an opportunity to take the weight of her legs and feet. Design of the pool should take into account Lucy's age and physical limitations. It should have a gradual slope for easy entrance and exit for Lucy and the substrate should be coarse enough to allow for good traction and footing for Lucy.

Conclusion

Lucy seems very content and comfortable in her situation and with her keepers who are in essence her family. Due to her health issues and her age, very careful consideration and preparation should be made before making major changes to the life she knows. In my opinion, the risks to Lucy's life and health would outweigh the potential benefits to transport her to another location or another management situation. Should she travel safely to another home, she would no longer live in a Free Contact environment where she interacts with her keepers without barriers. A Protected Contact environment would not enable the same level of care she currently receives nor is it likely that another facility would be able to replicate the customized attention she currently receives. Given Lucy has spent much of her life in the company of her keepers vs other elephants, it would be difficult for her to adapt to a new habitat and there may be compatibility challenges.

As a geriatric elephant, it is important that Lucy's quality of life be assessed regularly, documented to inform adjustments required based on her changing needs. The routine monitoring by Edmonton Valley Zoo's care team is supplemented with annual independent expert assessments that are required by Canada's Accredited Zoos and Aquariums (CAZA) given her lone elephant situation.