

**UPDATE**

**Lucy's Treatment Program  
Edmonton Valley Zoo**

June 2010

## **Introduction**

Lucy is a well-adjusted elephant with some manageable health issues, the most significant of which is a respiratory problem that compromises her ability to breathe properly. In November 2009, Dr. Milton Ness, veterinarian at Edmonton Valley Zoo, updated Lucy's treatment program to implement expert recommendations detailed by Dr. James Oosterhuis following a September 2009 exam. Dr. Ness's treatment program detailed actions to diagnose Lucy's breathing problem while working to treat symptoms and improve her breathing capacity and enhance the care she receives at the zoo. The treatment program action plan builds on the strengths of Lucy's relationships with the elephant care staff and Dr. Ness.

## **Exercise and Weight Reduction**

In his report, Dr. James Oosterhuis, an expert with more than 35 years experience working with elephants, noted that increased exercise with a focus on weight reduction would benefit Lucy, especially in regard to her respiratory problem.

Working with Dr. Ness and Lucy's care staff, an Edmonton veterinarian who specializes in rehabilitation therapy developed a comprehensive program to increase Lucy's activity level and flexibility to support ongoing weight loss. This program includes exercises, such as range of motion and stretching, to enable Lucy to be more active throughout the day even during colder weather when she spends more time inside. Elephant care staff hours have been increased allowing for this new exercise program to be implemented, in addition to her daily walks. Lucy's rehabilitation therapy also includes therapeutic laser treatments to mitigate the 35-year-old elephant's arthritis in her leg joints. Laser treatments are known to reduce swelling and inflammation.

Since the rehabilitation therapy program was started in November 2009, Lucy is demonstrating better movement when she is on walks and is bearing weight more equally on all four limbs. A formal session to benchmark Lucy's range of motion improvements occurred May 3. Lucy's therapist noted that Lucy has shown steady improvement and is pleased with her overall progress.

An animal nutritionist was engaged in June 2009 and Lucy's diet was modified at that time. The combination of Lucy's enhanced exercise program and diet changes has resulted in her losing approximately 500 pounds since September 2009 with her current weight being about 8,900 pounds. Dr. Ness will continue to oversee Lucy's nutrition and exercise programming and has set a target for Lucy to gradually lose another 500 pounds.

## **Medical Treatment**

Lucy has a respiratory problem due to an inflammation of membranes in her nasal region. This inflammation compromises her ability to breathe properly, particularly when she is under stress. For example, if she walks too fast during her daily exercise, she has to open mouth breathe, which is abnormal for an elephant.

An initial endoscope exam was conducted in September 2009 to help evaluate Lucy's breathing conditions. Since that time, follow up exams have been conducted to evaluate the effectiveness of medical treatment. During the last endoscope exam, Lucy's breathing was somewhat less laboured than it was during previous exam. This enabled Dr. Ness to conduct a longer exam. A three-metre long endoscope was again used to observe the inside of Lucy's trunk. The scope showed that Lucy's nasal passages remain constricted and that mucous is still present. The underlying cause of Lucy's respiratory problem continues to be undiagnosed. Lucy will continue to receive treatment, including medication. She is receiving antibiotics, anti-inflammatories and mucolytics to help address her breathing issue along with some medications to ease her arthritis.

As Dr. Ness has concluded the medical diagnostic treatment program developed in consultation with Dr. Jim Oosterhuis, and has scheduled Dr. Oosterhuis for a follow up exam and consultation. Next steps in Lucy's treatment program will be determined at that time.

## **Facilities Modification**

The Edmonton Valley Zoo has increased the sand covered area of Lucy's indoor enclosure as recommended by Dr. Oosterhuis. The remaining floor will be covered with rubber matting in summer 2010 to make it easier on her feet and joints while she plays and exercises. In the past Lucy has pulled up rubber matting. It is hoped a different type of rubber matting and installation process will address this challenge.

Zoo staff continues to consider options to increase the indoor exercise space available to Lucy during the winter months and to ensure her existing space is used to its full potential. This includes the possibility of acquiring new equipment or installations that encourage Lucy to stretch, to reach, to step up and down and to explore. A treadmill is not being considered at this time. Alternative multi-purpose facilities that will increase winter space are being considered with respect to location on the zoo grounds, usability and cost.

## **Foot Care**

Lucy has some pad defects on her feet as a result of conformational defects -- Lucy was born pigeon toed and bowlegged. These issues put extra stress on her feet. Because of this, the elephant care team takes great care with Lucy's feet. They are checked and conditioned twice a day as a preventative measure. Her front feet are being soaked twice daily: once with an astringent such as Epsom salts and once with a disinfectant such as apple cider vinegar. New foot pedestals have been built and are now being used.