

Abdominal Ultrasound Training with 0.3 Angolan Colobus Monkeys

*Ricca DuCharme, Primate Keeper
Disney's Animal Kingdom® Orlando, FL*

Introduction

The 1.2 Angolan colobus monkey (*Colobus angolensis palliatus*) group at Disney's Animal Kingdom® (DAK) has presented some unique training challenges for the Primate-Carnivore Team over the past three years. When these individuals first arrived at DAK in 2008, they had very little training experience and were slow to build trust with keepers. Despite the monkeys not having a solid training history, the keepers set out to train abdominal ultrasound with one female due to medical complications from a difficult birth. In this situation, the ultrasound behavior was shaped and utilized as a tool to monitor a vaginal-bladder fistula.



On show training at Disney's Animal Kingdom®

By training this behavior, the number of immobilizations were minimized, which also decreased stress to the animal. Shortly thereafter, ultrasound was also used to identify pregnancies in two other females in the group, as well as to obtain fetal measurements. This allowed veterinary staff to monitor these pregnancies more closely, which was a priority that resulted from the previously mentioned complications from a difficult birth.

Purpose of Training Abdominal Ultrasound

The abdominal ultrasound behavior was initially identified as a potential goal when one female developed a significant fistula as a result of dystocia during the birth of her second offspring. Prior to the diagnosis, the female was leaking urine and developed serious urine burns to her perineum and ischial callosities. Through the use of cooperative ultrasound imaging, the vet staff was able to identify the cause of the problem and take a targeted surgical approach to treatment and aftercare. The need for follow-up immobilizations to assess healing was minimized because ultrasound images could be obtained regularly. The success of training this behavior with one female encouraged us to train the behavior with two additional females to identify pregnancy and monitor fetal size, development and head circumference.

Shaping the Behavior

Although the first two females had little training experience prior to working on the ultrasound behavior, they were comfortable separating and stationing at the mesh in their holding stalls for keepers. All members of the colobus group were stationed at the mesh

daily, performing behaviors such as standing at the mesh, hand presentation and foot presentation, as well as taking food by mouth so keepers could assess their health and maintain a positive keeper-animal relationship. Each female had her own designated trainer who shaped the behavior, adjusting the training plan as needed to maintain animal comfort. It was extremely important that each monkey have a primary trainer she trusted and was comfortable with. Once the behavior was trained to maintenance level, the behavior was passed on to a few other trainers to allow for more flexibility with scheduling ultrasound assessments.

In order to facilitate appropriate body placement for the ultrasound behavior, a plastic wood board, approximately 1.5 inches wide, was attached to the front of the 2x2 inch mesh via zip ties in an area with no other perch or bench. This setup required the monkeys to cling to the mesh with both hands and feet to ensure suitable proximity to the mesh. Keepers quickly found that the monkeys would sit too far back from the mesh if stationed on a bench. The keepers then shaped the proper positioning by having the monkeys target their feet to the keepers' hands and gradually spreading out their feet. Due to one of the female's tendency to grab during training, the keeper attached small mesh to this area so that she could not reach through. Keepers began desensitizing the monkeys to the ultrasound probe by touching their abdomens with a wooden dowel and then progressing to a Doppler probe with the power turned off to simulate the cord of the ultrasound probe. This helped to minimize the potential of the monkeys damaging the expensive ultrasound probe during the initial shaping stage. Once



Kabibi with her infant, Zahra.
Disney's Animal Kingdom®

this step was completed, the actual ultrasound machine and probe were introduced. The keepers wrapped the cord and lower portion of the probe with elastic bandage material to provide a better grip in the presence of slippery gel. Another training component included desensitizing the animals to the application of ultrasound gel to their abdomens. Keepers started by touching the monkeys' abdomens with a damp sponge attached to the dowel until the animals became comfortable with the sensation. Then the sponge was replaced with increasing amounts of ultrasound gel. Gel was initially applied via a PVC dowel, and once the animals were comfortable with this, it was then applied to the probe. Keepers found that with one female it was necessary to warm the gel prior to its application in order to gain compliance. It was important during this process to read animal behavior and adjust as needed in order to help set them up for success. The keepers kept the training sessions short and reserved the most preferred diet items only for training.

Beyond the mechanics of the behavior, the colobus also needed to be desensitized to the presence of additional staff, including veterinary and managerial personnel. Initially, the group was most comfortable when a single keeper was present, so managers and additional keeper staff began coming to training sessions to acclimate the animals to the presence of multiple people. Once the behavior was shaped, a member of the veterinary staff was present during all medical assessments. The keeper held the probe and worked directly with the animal while the vet

staff directed the keeper regarding probe placement on the animal's abdomen so that the vets could obtain appropriate images and measurements. A primate manager was also present if the ultrasound machine was being used, to aid in communication and to assist the keeper if needed. The team established common terminology for communicating instructions for adjusting the probe placement so that any vet could efficiently communicate with any trainer. Managers also became familiar with the desired images so they could assist new trainers with probe placement prior to a session with a veterinarian.

Conclusion

Although the Angolan colobus group had minimal training experience when they arrived at DAK and the monkeys were slow to adjust to their new training program, keepers were able to successfully train abdominal ultrasound with three females. By establishing positive relationships with the animals and building on a basic training program, a complex husbandry behavior was achieved in a short period of time, thus improving the care of all animals involved. 🐒



Abdominal Ultrasound Training. View of perching attached to mesh for training. Photo taken backstage at Disney's Animal Kingdom®

BHC comments by Beth Stark-Posta

With such a strong focus on promoting excellent animal welfare, many zoos today are turning to positive reinforcement training to promote voluntary participation of the animals in their own care. This project exemplifies the benefits of a strong training program that focuses on a positive keeper-animal relationship. Building mutual trust is an investment that pays off in the long run, as seen in this example. Not only were the animals trained for pregnancy confirming ultrasound, but one was also able to receive a diagnosis without the need for immobilization. This type of training, as well as other training projects that involve the animals in their care, can go a long, long way to ensuring that we continue to promote excellent welfare in our zoo and aquarium animal residents. Congratulations on a job well done – and thanks for sharing your successes with us!

We want to hear your Training Tales – the good, the bad and the fabulous!

Please submit your "Training Tales" and experiences in operant conditioning to share with *Animal Keepers' Forum* readers. This opportunity provides a convenient outlet for you to exhibit your training challenges, methods and milestones with the AAZK member network. Please submit entries based on the following guidelines:

Submit a brief description of a training project at your facility. These can be 500 words or less, in text or bullet points – it can be longer (up to 1000 words); however, short and simple descriptions with a few images are just as perfect. Details should include the following:

- ▶ Define the training goal (what did you try to do and for what purpose?)
- ▶ List important steps (How did you do it – include plans that changed along the way/ what worked and what didn't work)
- ▶ Timeline used (how long did it take)
- ▶ Tips you learned along the way
- ▶ Include 3-5 digital photos that clearly depict the animal in the learning process or performing the desired goal (provide photo caption and photographer of each image). Photos need to be 300 dpi and at least 1200 x 1800 pixels.

Please send submissions or questions to:

Kim Kezer at kkezer@zoonewengland.com or Shane Good at shane.good@aazk.org
(Use Training Tales Submission as the subject).



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