

Cassowary Procedures at the Birmingham Zoo

How to maximize the success and
minimize the stress. Thinking Inside
the box!



Words of Advice

- Because he was used to going into a box, we were able to do what we needed to take care of him. This technique can be used for voluntary physicals and in preparation for any surgery.
- He was not traumatized by all of this and still comes in the box when we ask him.
- Get your cassowary used to coming in a box and being manipulated. It was so much easier and had a much better outcome.



The first prolapse

- No training was done with the animal
- Noticed that she was off but did not know why
- After a few days, we were able to see that she had prolapsed but it was hidden by the mass of feathers.
- By then it was dried out and necrotic

The anesthesia and restraint

- She was inside her barn and was darted with 4.5 mg of IM Medetomidine and 180 mg Ketamine
- We waited and nothing
- She was darted again with 2 mg of Medetomidine and 100 mg of Ketamine.
- Nothing- sedated but not enough to physically restrain
- Then she was darted again with 75 mg of Ketamine
- Nothing-Then she was darted with 100 mg of Ketamine.
- She laid down but was still alert and we decided to restrain
- She did not like this and walked on the walls
- She was restrained and was given 100 mg of Ketamine and 10 mg of Midazolam and 5% isoflurane in a facemask

Darted but not really down



Up and about



The unpleasantness continues

- We got her in the van to transport to AHC
- She decided to try to wake up in the van
- Finally she was on the surgical table and there was lots of necrosis because we did not find it in a timely manner.
- She recovered in a stall with hay bales but she recovered roughly and after standing for a few days she had to be put in a sling.

The ending

- After spending several days in the sling, she was euthanized due to poor prognosis. Her necropsy showed capture myopathy.



The Changes We Made

- We crate trained our male. He is not tame and at times has rather a nasty disposition.
- It was not hard. We built a crate and fed him in it and then conditioned him to accept all sorts of things.
- We could weigh him, get blood from him, apply cream to his neck, inject him and even touch him on his back and have him lie down in the crate



Weights



Here is how we did these things

- Grapes are very important but cut up apples and kiwi work also. Figs and muscadines are given in season.
- One person feeds from the front and another person manipulates the bird from the side.
- The first big thing we did was inject him with sterile saline. He didn't even flinch.
- We acclimated him to the crate in incremental steps. We positioned the crate where he had to walk through it to eat and go in the barn, then we got him used to us being around when he walked through, then we introduced doors, and eventually got him to accept being closed inside the crate.

Saline injection



Next Steps

- We started handling his wing and found that there are some good blood sites back there.
- We got him used to being stuck behind his wing. He didn't care as long as the grapes kept coming.
- Our fabulous vet staff came down and got blood with no problems. Here is a video.



Cassowary Blood Draw Video



Cassowary Blood Draw Picture



Other things

- He had scaly, dry skin on his neck that turned out to be a *Pseudomonas aeruginosa* infection.
- He would let us exfoliate dead skin with a brush and apply SSD cream to his neck.
- We discovered a spot on his back that when touched would make him lay down in the crate.

Neck rubbing



More things

- He would let us lift up his tail feathers and look at his cloaca and let us touch that area.
- This became important later, when we examined him and found this.



What we found



What we did next

- We were able to transport him to the AHC in the crate. Hand inject him in the crate with 2.5 mg of Carfentanil and 6.2 mg of Midazolam and 160 mg of Ketamine, tap him on the back to get him to lay down in the crate and give him 5% isoflurane gas by facemask in the crate until intubated and then maintained on 2%-2.5 % isoflurane. He was reversed with 250 mg Naltrexone 1/2 IV and 1/2 IM

Administering gas while heavily sedated



Different Angle



Monitoring vitals



Ready to go to surgery



Oh dear



Back in and cleaned up



Put some sugar on it



A few stitches



All done



Steadying his head during recovery



Groggy but Contained



Part 2-the second go around



He is fine now

- Both sedations were in the crate and both recoveries.
- We were able to keep him in the crate for a few days and monitor the stitches and the prolapse.
- He did this while fully awake and eating.
- After we moved him back to his yard, he still came in the crate and let us treat him

Crate Design Suggestions

- We would make the crate about one foot longer and reduce the width by one foot. He can turn around in our current crate.
- We would also put in skylights for more natural light. Lighting can be a challenge in the box.

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