Oct 19, 2020

Chapter 5: Severe nutritional deficiencies, emaciation, head trauma

In 1 collection

Kerri Wolter[1]

[1]VulPro

1 *Works for me* This protocol is published without a DOI.

VulPro

Kerri Wolter

ABSTRACT

This protocol describes the proper treatment for severe nutritional deficiencies, emaciation, and head trauma in vultures.

ATTACHMENTS

Vulture_Rehabilitation_Manual_Version_2.0_.pdf

PROTOCOL CITATION

Kerri Wolter 2020. Chapter 5: Severe nutritional deficiencies, emaciation, head trauma. **protocols.io** https://protocols.io/view/chapter-5-severe-nutritional-deficiencies-emaciati-bmjek4je

COLLECTIONS

Vulture Rehabilitation Manual

KEYWORDS

vultures, vulture rehabilitation, severe nutritional deficiencies, emaciation, head trauma

CREATED

Sep 21, 2020

LAST MODIFIED

Oct 19, 2020

OWNERSHIP HISTORY

Sep 21, 2020	Emily Hasser	Cornell University
Oct 01, 2020	Kerri Wolter	

PROTOCOL INTEGER ID

42310

PARENT PROTOCOLS

Part of collection
Vulture Rehabilitation Manual

ATTACHMENTS

GUIDELINES

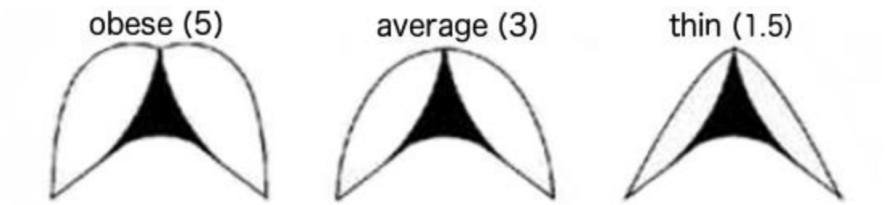
Vultures which have broken their wing can still walk and survive for several weeks after their injury. Many power line collision victims arrive at a rehabilitation facility emaciated and weak from spending extended periods on the ground after the collision. Emaciated, inexperienced juvenile vultures are common rehabilitation patients during the fledging season. When fledglings first leave the nest, many are not able to make it back to their colony or nest and are found grounded in areas where they are unable to fly. The risk of this occurring is greatly increased if the weather is inclement.

ABSTRACT

This protocol describes the proper treatment for severe nutritional deficiencies, emaciation, and head trauma in vultures.

Body Condition Score

1 Score the body condition of all vultures by feeling the amount of flesh around the keel (breastbone) and rating the bird using a basic scale from 1 to 5. Healthy birds range from 2,5 to 4. Any bird below 2 is considered thin. If a bird is severely emaciated, there may be little if any muscle felt around the keel, and neck vertebrae are usually prominent.



The images above depict a cross-sectional view of the bird's keel (as though you are looking down on the bird from above). The black area represents the keel bone and the white sections are the flanking pectoral muscles.

Feeding an emaciated bird, probiotics and supplements

2 Feed any bird presenting with a score of 2 or below daily. Frequently feed emaciated birds and keep them hydrated at all times.

3 Feed emaciated birds with very small, thin pieces of muscle and fat from fresh carcasses. Soak these pieces in water or saline for 5 minutes prior to feeding to assist in digestion and rehydration.

4

The crop is not a stomach. Instead it is more akin to a shopping basket or personal pantry. There are no acids or enzymes inside the crop to stop food putrefying, so any food which does not pass on into the stomach rapidly begins to rot.

If the crop does not reduce in size, do not continue to feed. You must be sure the meat is passing through the bird before you continue to feed. One should not feed any bird while there is still food in the crop. This may take up to 40 hours.

5 If food is slow in passing from the crop, moisten the meat in the crop and massage it to encourage it to move on into the stomach. Do this by tubing **60 mL** - **120 mL** of fluids after feeding.

6 Consider the administration of probiotics to any bird which is in bad condition, has had a gut infection, or been on a course of antibiotics. Administer powdered probiotics with food, or in fluid via crop tubing. A suitable dosage would be one heaped teaspoon on one or two consecutive feeds.

7 For thin birds, especially young ones, provide bone chips, powdered calcium carbonate, or calcium and vitamin D3 liquid or powder, daily for two weeks after admission.

Thin individuals will also benefit from vitamin supplements for the first few days after admission. Intramuscular Catasol (multi-vitamin), Vitamin B1, and Calcium may be beneficial. It is important to use one preparation and limit it to the recommended dose rate, as over dosage can be dangerous.

Seizures

8

In vultures, seizures range from slight twitches of the head to full body convulsions. Severe, involuntary muscle contractions often result in characteristic twisting of the neck towards the back of the body. These convulsions can be related to severe hypoglycaemia (critically low blood glucose), toxicity (poisonings), head trauma, severe nutritional deficiencies, or general emaciation or debilitation.

Give emaciated, seizing birds fluids (containing 10% glucose) and force feed them, preferably with a semi-elemental critical care diet (e.g. Emeraid® carnivore care), immediately.

If a critical care diet is not available, then a diet of minced whole carcass, with added glucose powder and vitamins is appropriate. Typically, as soon as some nutrients and fluids have processed through their system, the seizures stop. If seizures continue after giving some food and fluids, the seizures are less likely to be nutritional, and more likely caused by toxins, head trauma, etc.

9 Keep any bird having seizures in a dark, calm, quiet, stable environment. Administer intravenous fluid therapy via a drip to all such cases(see CHAPTER 2).

Unfortunately, seizures are self-perpetuating; in other words, the more seizures that occur, the higher the likelihood of another seizure occurring. If seizures are occurring frequently (every few minutes), it is important that these are controlled as quickly as possible.

10 Bring seizures under control with the administration of a Benzodiazepine sedative:

- Diazepam (commonly known as Valium) administered at a dose of 0.5-1mg/kg by intramuscular or intravenous injection every 8-12 hours, or 2.5-5mg by mouth every 12 hours, or
- Midazolam administered at a dose of 0.5-1mg/kg by intramuscular or intravenous injection every 8-12 hours.

If sedatives are not available (these drugs are controlled veterinary medications), then some cases will respond favourably to steroids (e.g. dexamethasone). Careful consideration must be taken when administering steroids to bird species. Birds are highly susceptible to the immunosuppressant properties of steroids; thus, they should only be administered when absolutely necessary. Birds will often develop resultant bacterial, viral and fungal infections after administration of steroids. Consider providing prophylactic (preventative) courses of antibiotics and antifungals to these patients. **If steroids are administered, you must NOT give in conjunction with ANY non-steroidal anti-inflammatory drug (NSAID) e.g. Meloxicam®; there must be a waiting period of at least 3 days between the use of these two drug classes**. The combination of steroids and NSAIDs are toxic to all species, including vultures. Administering the drugs together can result in acute kidney failure, acute liver failure and ulceration/perforation of the digestive tract; often resulting in death from these injuries.

Blindness

11

In view of their lifestyle (communal living, flying and eating and their quarry / food doesn't run away), vultures with compromised eyesight generally cope well, indeed damage to the first eye often goes unnoticed. However if eyesight is totally lost this is a different matter. Vulture wildlife admissions have often suffered trauma.
Some 30% of all raptor trauma cases, has suffered eye damage and in 70% of these cases the only damage is seen in the posterior segment, (i.e. behind the lens, where it cannot be seen without use of an ophthalmoscope), this will typically comprise haemorrhage or retinal detachment behind the lens and often goes unappreciated as looking at the birds eye with the naked eye, no abnormality is seen. A traumatised bird can suffer damage to both eyes although this is relatively rare, however a vulture initially suffering damage to one eye will typically manage well, until the second eye is also damaged.

If a vulture is presented with apparent blindness, submit the vulture for full ophthalmic examination by an experienced avian or ophthalmic vet.

There are many potential diagnosis, such as cataract formation, neoplasia, dry eye, uveitis, parasitic infestation, bacterial infection in the globe, penetrating lesions, glaucoma, insect stings. In some such cases therapy can be effective.

In cases of blindness, not associated with trauma, then the main differential cause would be lead poisoning. Whilst generalised weakness of limbs and incoordination is typically associated with lead poisoning in birds, in some cases the only presenting sign is acute onset blindness.