DoveLewis®

Veterinary Emergency & Specialty Hospital

Critical Care Management of the Exotic Patient (Part One): Avian and Reptiles

October 4, 2021

Presented by

Sarah Harris, CVT, VTS (ECC)

DoveLewis

Attendee FAQ's

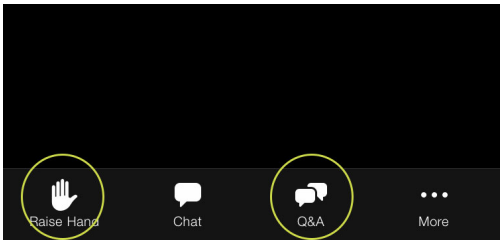
Do I need to create my own Zoom account to attend?
No. You can access the webinar through the link in your confirmation email. Click the link that says, "Click Here to Join" at the time of the lecture.

Is there someone to help if I have trouble accessing the lecture?
Yes. Please reach us at contact@dovelewis.org if you're experiencing difficulties joining the meeting. During the lecture, you can use the "Raise Hand" function and someone will be able to help you.

Is attendance tracked?
Yes. As you register for the Zoom meeting, you will be asked to enter your information. Attendance is tracked for RACE records.

Is this lecture RACE approved?
Yes. This lecture is RACE-Approved for one Interactive-Distance CE credit. You will receive an emailed certificate of attendance within one business day after the event.

Will I be able to ask questions?
Yes. If you have questions during the lecture, please use the Q&A function to submit your question. We will save questions for the end of the lecture.



Will I be able to talk?
No. All attendees will be in listen-only mode. If you have a question or need help, the Q&A or Raise Hand function.

Will the presenter or other attendees be able to see me?
No. All attendees will only have the capability to listen to the presenter.

How will I get my certificate?
You must register by using the Zoom link to prove attendance. You will receive an emailed certificate of attendance within one business day after the event.

Do I have to answer the poll questions?
No. The poll questions are optional, but we encourage you to try!

Can I record the lecture?
No. The lecture will only be recorded by DoveLewis, and will likely be available on atdove.org at a later date.

For more support, please email *contact@dovelewis.org*

Lecture Notes

Introduction

Most exotic pets are prey species that tend to hide signs of illness until disease is well advanced. Much of this stems from the instinct to avoid predation, by outwardly appearing healthy. It should be considered that any exotic patient that presents on emergency likely has significant underlying disease. The one exception to this would be cases presenting with acute trauma.

Assessment

Assessment of the exotic companion animal starts with history collection. It could be argued that an accurate history can be equally or even more important than the physical exam. In exotic species, history taking is crucial because many disease processes are directly connected to inappropriate diet or improper husbandry. Reproductive emergencies also represent a moderate percentage of exotic emergencies. It is important to understand that owners may be calling their pet a male or a female, but the gender they state may not be accurate. Unless the species is dimorphic, DNA testing or specialized probing may be required to reveal the pets' gender. When exotic species present in an emergency, rapid assessment and appropriate supportive care are essential to good outcomes. Over-handling of species that are prone to stress can lead to significant consequences, therefore preparedness is important. Prior to examination, all materials needed for the exam and for diagnostics should be organized and readily available. It is additionally important to consider the space in which the exam will take place. A small room with dimmed lighting, covered windows and locked doors is ideal, to prevent further trauma or escape. Physical examination is should be performed systematically and efficiently, with as much of the exam as possible done through visual inspection while the animal is still caged. While the approach to a physical exam is not much changed, after that similarities to dogs and cats are harder to find. Besides the obvious anatomical differences, each species comes with unique dietary, environmental needs, as well as their own common diseases. Many different species may carry common zoonotic infections and for protection of both the pet and the staff, medical gloves should be worn at all times.

Avian Stabilization Procedures

Hemorrhage control: Basic interventions that can be used initially to control hemorrhage include compression with a pressure wrap. It is important to note that you should avoid placing too much pressure on the keel or generally over the coelomic cavity. Broken blood feathers should be pulled and pressure applied to the follicle. Silver nitrate or cautery can be used on patients presenting with bleeding nails.

Lecture Notes

Subcutaneous (SQ) fluids: While SQ fluids are not appropriate for the extremely critical patient, they can be used in patients with minor blood loss or patients who are stale but mildly dehydrated. There are several spaces that could be used for the administration of SQ fluids, but the preferred location is the inguinal region. The inguinal region on either side allows for the largest volume and comes with the lowest risk of inadvertently penetrating an air sac or lung. Axillary and dorsal regions can be used but both locations come with an increased risk of iatrogenic injury and provide small space for placement of fluid.

Oral fluids (crop tubing): Oral rehydration can be completed by administering several different commercially available products or lactated ringer's via a gavage (crop) needle. While relatively easy to administer, precaution must be used for overfilling. Regurgitation of fluid back into the pharynx is an indication of overfilling and overfilling can quickly lead to aspiration. For all birds, food and fluids should be warmed before administration.

Phlebotomy: A surprisingly large amount of blood can be collected via phlebotomy in a variety of locations. Similar to mammals, blood volume is calculated as 10% of the birds total body weight. Traditionally, it is thought that 1% of the total body weight can be the volume of blood you collect from a healthy bird. In sick patients or patients that you suspect could be hypovolemic, elderly or otherwise compromised, a smaller sample should be considered. Newer literature suggests that birds can tolerate closer to 2-3% of their bodyweight. However, even small amounts of blood can provide valuable information on their clinical condition. Blood samples used for both hematology and biochemistry should be placed in heparin tubes as EDTA appears to lyse cells in several species. Common phlebotomy sites include the jugular vein (right considered larger than the left), basilic (ulnar/wing) vein, or medial metatarsal (tibial) vein.

Intravenous (IV) Catheterization: IV catheters can be challenging to maintain in the avian patient due to their thin skin. Locations are the same as the phlebotomy sites listed above. To place an IV catheter, the technician would pluck the feathers and scrub the point of insertion. Catheter size is usually limited to 24-26g over-the-needle catheters, except in very large species. The catheter can be secured with tape suture and then secured with a figure eight bandage if the basilic vein is used or a neck wrap for a jugular catheter. Unless the bird is extremely debilitated an e-collar must be placed.

Intraosseous (IO) Catheterization: IO catheters should be considered for any critical avian patient that will remain in hospital for an extended period of time. Pneumatic bones must be avoided. The locations that are safe for IO catheter placement in birds are the distal ulna or the tibiotarsal crest. The most common consequence of IO catheter placement is osteomyelitis, therefore, sterile preparation and technique must be adhered to. The site should be plucked and scrubbed and a local block of 2%lidocaine diluted with saline can be used to help facilitate placement. Size of catheter is dependent on species with 22-20g used on medium to large birds and 25-gauge needles for smaller birds. While hypodermic needles can be used, a stylet can prevent obstruction on the lumen with cortical bone.

Lecture Notes

Air Sac Cannulization: Any bird that presents with a suspect upper airway obstruction may be a candidate for an air sac cannula. These cannula's can be placed in either the caudal thoracic or the abdominal air sacs. A modified endotracheal tube or a red rubber catheter can be cut to an appropriate length. The diameter of the tube is selected of the approximate tracheal lumen size. Patency can be confirmed by placing a small feather over the opening and ventilating the patient. Air movement should be adequate to move the feather or the tube position should be adjusted. The tube can be sutured directly to the body wall using a finger trap technique.

Nursing Support for the Avian Species

Oxygen support: Any bird that is stressed or showing signs of respiratory distress should be given oxygen support. While there are many methods to deliver oxygen, an oxygen cage is considered the best option. Dyspneic birds are going to be less tolerant of handling and will likely become more stressed with attempts to deliver oxygen via facemask. Some oxygen cages allow you to make adjustments to fiO2% as well as percent humidity. An ideal environment for a bird presenting in respiratory distress would be 35%-50% fiO2 and approximately 70% humidity.

Heat Support: Core temperatures in avian species are generally considered inaccurate and can have significant fluctuations throughout the day. Any avian that has advanced disease that requires critical care management can benefit from an environment that includes heat support. Frequently oxygen units or cages commercially manufactured for avian patients often allow you to set the temperature to meet the patient's needs. Temperature requirements for the avian species are generally much higher than mammal species and if possible, cages should be kept between 85-90°F.

Fluid Therapy: Crystalloids are the preferred treatment for dehydration in the avian species. Maintenance dose of fluids can range from 50-150mL/kg/day depending on the species. Hydration can be assessed by evaluation of the mucous membrane color of the cloacal mucosa, although pigmentation should be considered. Perfusion status can be evaluated by the refill time of the basilica vein.
Medication Administration: Medications can be determined depending on the presenting complaint and disease state of the patient. However, pharmaceuticals including analgesics, anxiolytics, antibiotics and anti-inflammatory medications are frequently used in avian medicine. Doses vary significantly from mammal species and each practice could benefit from an exotic animal formulary.

Nutritional Support: Hyporexic or inappetent avian patients should be provided nutritional support while in hospital. Ingluvial (crop) gavage is indicated to assist in daily caloric intake. All avian species have a large surface area to bodyweight ration and a high metabolic rate. A sick bird can enter a catabolic state even if eating a moderate amount of food. Unless a patient is vomiting, regurgitating or collapsed, assisted feeding should be considered. If gavage feeding is not an option, an esophageal feeding tube should be considered.

Lecture Notes

Cage setup and behavioral support: When considering housing for a hospitalized avian species, the cage should allow easy access, heating and allow the patient to stand upright on a perch without their head touching the top of the cage or their tail touching the flooring of the cage. Many parrots will chew the wire on the cages so it is important that zinc and rusty metals not be used. Paper lining the bottom of the cage is more desirable then towels for adult birds. Many adult birds will tear the towels and risk ingesting fibers that could cause an obstruction. Towels can be used to create a U or doughnut shape for neonates or collapsed birds. Hot water bottles should not be left in the cage of active parrots which may chew and ingest the plastic or rubber. Toys are acceptable and may be comforting for avian patients but must be made of non-metallic, non-toxic materials that can be cleaned easily and do not pose a risk for gastrointestinal obstruction.

Common Presenting Illnesses/Clinical Signs

Acute respiratory distress	Diarrhea
Air sac rupture	Egg Binding/Exhaustion
Burns to skin	Fractures (wings/limbs/toes)
Cloacal prolapse	Hemorrhage (blood feathers/laceration)
Collapse/Shock	Hypothermia
Crop burns/crop fistulas	Poisoning (inhalation/heavy metals)
Crop stasis (sour crop)	Trauma
Contamination of feathers (oil)	Vomiting/Regurgitation
Convulsions/Seizures	
Dehydration	

References:

Ballard, Bonnie, and Ryan Cheek. Exotic Animal Medicine for the Veterinary Technician. First ed., Blackwell Publishing, 2003.

Chitty, John, and Deborah Monks. BSAVA Manual of Avian Practice: A Foundation Manual. British Small Animal Veterinary Association, 2018.

Graham, Jennifer. "Common Avian Trauma Presentations." , International Veterinary Emergency and Critical Care Symposium, 2018. Accessed 23 Oct. 2018.

Graham, Jennifer. "Stabilizing the Avian Trauma Patient.", International Veterinary Emergency and Critical Care Symposium, 2018. Accessed 23 Oct. 2018.

Greenacre, Cheryl B., and Teresa Y. Morishits. Backyard Poultry Medicine and Surgery. First ed., Blackwell Publishing, 2015.

Rosenthal, Karen L., et al. Rapid Review of Exotic Animal Medicine and Husbandry. Manson Publishing/The Veterinary Press, 2008.


DoveLewis
1/15
Cover
Table of Contents
Training Videos
How to Get What You Need
Banfield
Cultiv
VetWrap
Volume 15, Issue 2
Stabilizing Thoracic Limb Fractures
Read more
04
How to Get What You Need
Read More
12
Blocked: Urethral Obstructions in the Male Cat
Read More

atdove.org

WHAT WE BRING

HUMAN STORIES IN VETMED

ATDOVE.ORG'S NEW PODCAST HIGHLIGHTS THE HUMANS BEHIND THE ANIMALS WE CARE FOR

This past year has had a unique impact on the veterinary industry as we all have had to adjust to new protocols, increased patient counts, and more.

Our new podcast, *What We Bring*, offers an inside look at the stories and experiences of people who care for our pets. We hope you'll join us!

ABOUT THE SHOW

When we walk onto the floor for our shift, we all bring with us our own unique stories. *What We Bring* examines the human experiences of those working in veterinary medicine, from the front desk to the O.R. Join DoveLewis Veterinary Well-Being Director Debrah Lee, LCSW, as she explores the real human stories behind the animals we care for.

We hope this podcast will shine a light on the experiences (good and bad) we bring with us to the clinic, and help move us towards greater openness and understanding as an industry. We know that not every lesson can be found in textbooks and training plans, so we're turning to each other to connect, listen, learn, and grow.

WHERE TO FIND US

Click here to listen to the first episode where we explore imposter syndrome, client compassion, and more with emergency CVT Kara.

MEET HOST DEBRAH LEE, LCSW

Debrah Lee, LCSW, joined the DoveLewis team in 2020 as the Veterinary Well-Being Program Director. Coming from a background in human healthcare, Debrah has long had an interest in how emotionally-demanding medical settings affect both patients and providers. Debrah brings a compassionate presence and deep appreciation for the human experiences that connect us, and she is eager to learn more from veterinary professionals about their experiences within the world of veterinary medicine.

Refer Patients Easily Online

TAKE YOUR REFERRAL EXPERIENCE TO THE NEXT LEVEL

- Refer patients quickly 24/7
- Upload patient records and images easily
- Update referral records after submission
- Access team tools like cost guides and checklists
- Save time off of the phone!

Explore the Portal

DOVELEWIS.ORG/VETERINARY-PORTAL

DOVELEWIS IS HIRING!

See what opportunities there are for you to join our dedicated team of medical professionals, customer service experts, business staff, and community outreach representatives.

Apply Today!

DOVELEWIS.ORG/CAREERS

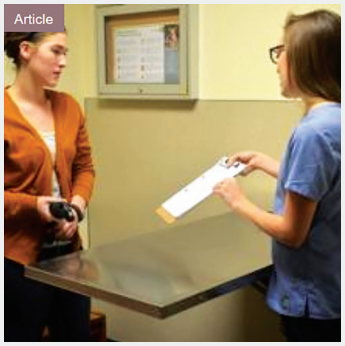
Online Training, Whenever You Need It

You and your team all have different learning goals, and we've got you covered. Atdove.org is your all-in-one online training resource that connects the whole team with high-quality training materials covering a wide range of topics. You can find resources on anything from basic restraint to client communication to advanced surgical techniques, and you can revisit materials whenever you need. Progress is saved directly to your profile and you can access certificates at any time.

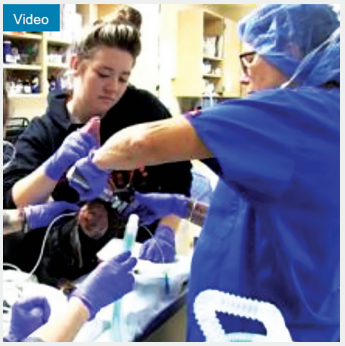
Your First Week Is Free!

Activate your week-long trial by going to *atdove.org* and see what we can offer your team!

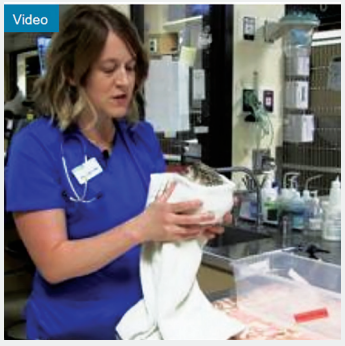
Efficient Recording Sharing: A CSR's Perspective



Facial Mass Removal



Handling Hedgehogs for Exams



How to Put on Personal Protective Equipment (PPE)

VECCS VETERINARY EMERGENCY & CRITICAL CARE SOCIETY CERTIFIED FACILITY LEVEL I FACILITY RAISING THE LEVEL OF PATIENT CARE

AAHA ACCREDITED REFERRAL

atdove.org

ONLINE TRAINING WITH THE EXPERTS AT DoveLewis