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Veterinary Emergency & Specialty Hospital

Critical Care Management of the Exotic Patient (Part Two): Small Mammals

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Presented by

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Attendee FAQ's

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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.

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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.

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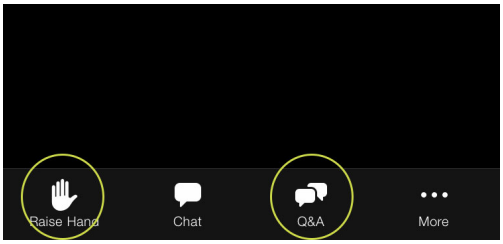

Will I be able to talk?
No. All attendees will be in listen-only mode. If you have a question or need help, the Q&A or Raise Hand function.

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. 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. It should be considered that the patient's condition may be worse than expected based on initial evaluation. Many of the small exotic mammals are prey species and naturally hide signs of illness or the extent of injuries as an adapted survival technique.

Stabilization

Many of the principles of stabilizing the small exotic mammal patients are similar to those in traditional companion animals. Modifications can be made for patient size and individual physical characteristics. Stabilization techniques that will be discussed in this lecture will include phlebotomy, intravenous (IV) and intraosseous (IO) access, intubation, and the use of sedation. In many cases, the most important initial interventions will be limited to oxygen administration and patient warming.

Lecture Notes

Intravenous Catheterization: In any patient presenting in shock, direct vascular access is always preferred. However, many exotic small mammal species will not initially tolerate this. Initial subcutaneous fluid boluses may be beneficial. In some exotic small mammals, IV catheterization is relatively easy to accomplish. Technique is similar to traditional companion species and catheter sizes of 22-26g can be used depending on the species.

Small exotic mammal IV catheterization:

Ferrets: Cephalic, jugular, or lateral saphenous veins
Rabbits: Cephalic, Lateral saphenous, or aural veins
Guinea pigs: Cephalic and lateral saphenous veins

Intraosseous Catheterization: In species smaller than guinea pigs, IV catheterization can be difficult but vascular access is feasible with intraosseous catheterization. Typically this can be accomplished using the femur (proximal through trochanteric fossa), humerus (proximal, through greater tubercle), or tibia (proximal, through tibial crest) after a sterile prep has been completed. The use of standard hypodermic needles sized 27-22 gauge is adequate. Once placed, the IO catheter can be secured with tape or suture and fitted with a t-port or an adaptor plug. Proper placement can be definitively confirmed by radiographs, although can be assumed by stability and failure to visualize or palpate subcutaneous fluid accumulation when flushing. Hypodermic needle IO catheters can occlude with bone core or blood clots. This can be resolved using a sterilized stylet or wire as a stylet, or by removing and replacing the catheter with a new needle using the same entry location. Sedation and local analgesia can both benefit the patient and facilitate placement. Lidocaine at 2mg/kg can be administered into the skin, subcutaneous tissue and periosteum.

Venipuncture: Diagnostic testing is often prolonged in the very sick exotic patient. Initial diagnostics often just include a PCV and glucose. Because a very small amount of blood is required the veterinary technician can collect from any peripheral vessel that is visible. Often the best approach is using a small needle without syringe and collecting the blood through the hub of the needle with a hematocrit tube. When larger volumes of blood are required for diagnostics, peripheral vessels might not be adequate in smaller patients.

Small exotic mammal venipuncture:

Ferret: Jugular, lateral saphenous, ventral tail artery and cranial vena cava
Rabbits: Cephalic, lateral saphenous, jugular and the auricular artery or vein
Guinea Pigs: Cephalic, lateral saphenous, femoral and jugular veins

Intubation: Intubation in fairly straight-forward in exotic carnivores, but becomes much more challenging with rabbits, rodents and other exotic species.

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Lecture Notes

Small exotic mammal intubation:

Ferret intubation: Similar to cats. Use 2.5mm endotracheal tube with a stylet
Rabbit intubation: Blind intubation relies on the detection of breath sounds or visualization of condensation. Can be even more challenging in the case of arrest. Endoscope or laryngoscope guidance can be used but usually requires significant practice. Consider forced mask ventilation in emergency situations.
Forced mask ventilation: A tight-fitting mask is placed over the nares and oral cavity. An anesthetic machine or Ambu bag can be used for ventilation. This will lead to air distention in the stomach, which can be managed once ventilation is no longer required.

Sedation: In exotic mammal species anxiety can contribute significantly to dyspnea. Because of this many of these patients can benefit from the administration of low doses of sedation. Frequently, the medications that are the safest while providing the desired effect are midazolam (0.3mg-1mg/kg) +/- butorphanol (0.1-0.2mg/kg). Both can be given intramuscularly and provide relief including the reduction on anxiety as well as, decreased respiratory efforts. Once sedated, intermittent monitoring should be performed to monitor the patient's response.

Nursing Support for the Exotic Small Mammal

Oxygen Support: As previously stated, anxiety can contribute to a dyspneic presentation in any exotic species making it hard to distinguish other causes of respiratory distress. Any exotic patient showing signs of respiratory distress should receive oxygen stabilization. Many exotic small mammals may become more stressed with attempts to administer oxygen with the use of a facemask. Because of this, an oxygen cage is often considered the best option. Oxygen administration may be most effective administered to an undisturbed, resting patient.

Heat Support: Normal core temperatures can vary significantly between species of exotic mammals and in many cases are a few degrees higher than common companion mammal species. Most exotic mammals that have advanced disease can benefit from an environment that includes heat support. Care must be taken that they can get away from active warming to avoid iatrogenic thermal injury.

Pain Management: As a survival technique, exotic mammals are skilled at hiding signs of pain. Signs of pain can be subtle and these patients may continue normal behaviors such as grooming, eating and ambulating even in the presence of significant pain or trauma. Therefore, analgesics should be considered in many of these patients, even if the signs of pain are not clinically present. Both opioids and NSAIDs are commonly used in exotic companion mammals. Because pharmaceuticals should frequently be considered, an exotic animal formulary should be a main stay in any hospitals treating exotic patients.

Lecture Notes

Nutritional Requirements: Exotic small mammals range from carnivores to herbivores. Many have very sensitive GI tracts and diet should always be considered an essential part of nursing care. Many exotic small animals should be feed frequently to meet their metabolic needs as well as avoid secondary complications such as GI stasis/ileus. Several critical care feeding formulas are available for exotic species that meet the specific needs of both the carnivore and herbivore patients (or a blend for omnivores) (www.oxbowvetconnect.com). Fine grind formula is recommended for patients that will require bolus feedings through an oral feeding syringe. And there is a specific line of products from Lafeber Company designed for assisted feedings (https://emeraid.com/)

Common Presenting Illnesses/Clinical Signs

Acute Respiratory Distress	Fractures
Anorexia	GI Stasis/Illeus
Bite Wounds	Hypoglycemia
Blunt Trauma (Falls/HBC)	Hypothermia
Dehydration	Seizures
Degloving Injuries	Shock/Collapse
Dental Overgrowth	Spinal Cord Injury/Fracture
Dental Trauma	Tumors
Diarrhea (Wet tail)	Upper Respiratory Signs
Dystocia	Vestibular Disease/ Inner Ear Dz.
Foreign Body Obstruction	Vomiting/Regurgitation

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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.

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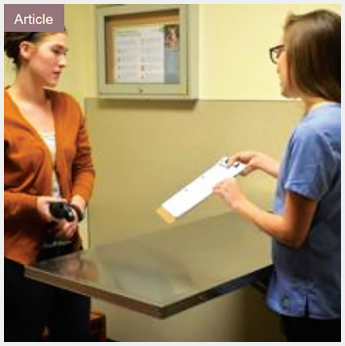
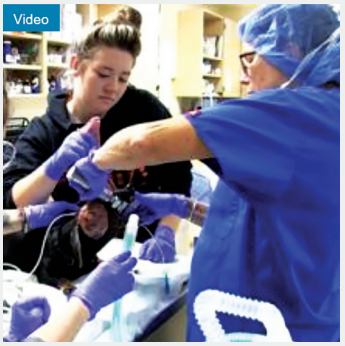
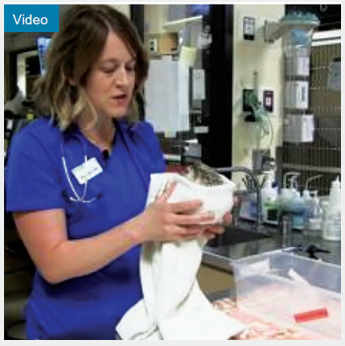


Facial Mass Removal



Handling Hedgehogs for Exams



How to Put on Personal Protective Equipment (PPE)

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