atDove Lecture Notes

ANNUAL CONFERENCE LECTURE NOTES

VETERINARIAN TRACK

atDove Lecture Notes

Demystifying Small Exotic Mammal Anesthesia and Analgesia for the Small Animal Practitioner

Kelly Flaminio, DVM

Introduction

Small exotic mammals are becoming increasingly popular companion pets in the community. This requires the small animal practitioner to become more familiar with these zoological species to be better able to serve their client base. The ability to provide excellent medical care to these animals highly relies on the practitioner's comfort level in administering analgesia, sedation and anesthesia. Many species, unlike dogs and cats, will require sedation for common minimally invasive procedures such as physical examinations, blood collection, imaging or IV catheter placement. It is important to change our mindset in how we work with these species to reduce stress and mitigate complications while providing care.

Getting Started

Common zoologic companion mammals:

- Ferrets*
- Rabbits
- Rodents
    - Guinea pigs
    - Chinchillas
    - Rats
    - Mice
    - Hamsters
    - Gerbils
- Hedgehogs
- Sugar gliders

*Not covered in this lecture due to similarity to other small carnivores (ie cats)

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Equipment Recommendations

- Appropriate housing (away from dogs and cats) and in hospital diets
- Heat support (incubators, heating pads)
- Small stethoscope (Littmann infant size)
- Gram scale (ability to measure to the thousandth of a kg)
- Ultrasonic doppler
- Induction chamber
- Anesthesia facemasks (variety of sizes)
- Non-rebreathing anesthesia circuit
- Small needles, syringes, IV catheters, ET tubes

Preparing for Sedation/Anesthesia

Many small animal practitioners feel uncomfortable performing sedation and anesthesia in small exotic mammals due to the perceived higher anesthetic risk in these patients. While this statement is true, the increase in risk compared to dogs and cats may be surprising. A retrospective study with a high number of patients found the overall perioperative mortality (premedication – 48 hours post-operative) to be 0.17% in dogs, 0.24% in cats compared to 0.33% in ferrets, 1.39% in rabbits 2.01% in rats, 3.29% in chinchillas, 3.66% in hamsters, and 3.8% in guinea pigs. However, in rabbits specifically, the mortality rate increased in sick rabbits to 7.37%. This statistic implies that properly preparing for an anesthetic event, and effectively communicating with the owner are important steps not to be overlooked.

Phases of Anesthesia

Planning for the anesthetic event should not be a significant shift from the normal process in planning for a dog or cat surgical procedure. The phases of an anesthetic procedure are as follows:

Phase 1: Pre-anesthesia

Evaluation
Stabilization
Fasting
Mitigation of stress
ASA score

Phase 2: Anesthesia

Equipment set-up
Body temperature
Anesthetic protocol
Pre-op blood work
Analgesic protocol

Phase 3: At home care

Discharge instructions
- Detailed handouts
- Videos

Follow-up phone call
Scheduled recheck

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In Phase 1 it is important to understand fasting recommendations in each species. Due to the increase in anesthetic risk in clinically ill patients, assigning each animal an ASA (American Association of Anesthesiologists) physical status score during the pre-anesthetic exam is an important step (see below). During Phase 2, it is important to have all required equipment ready to decrease the time under sedation and anesthesia. This step is more critical in exotic animals compared to dogs and cats as time under anesthesia directly effects mortality rates more significantly in these species. During Phase 3, the author recommends making use of the content on Lafabervet.com for detailed handouts and client videos to increase compliance of at home instructions.

American Association of Anesthesiologists Physical Status Scores

Physical Status	Criteria	Examples
ASA I	Healthy patient, elective procedure	Spay/neuter
ASA II	Mild/localized disease	Tooth trim, broken nail, wounds, mass removal
ASA III	Systemic disease without immediate risk to life	GI stasis, urolithiasis
ASA IV	Systemic disease with immediate risk to life	Foreign body, metabolic derangements
ASA V	Will die within 24hrs without intervention	Gastric dilatation & volvulus, liver lobe torsion

<u>Mitigating Anesthetic Risk and Complications</u>

The American Animal Hospital Association (AAHA) recently released anesthesia and monitoring guidelines for dogs and cats in 2020. Many of these potential anesthetic risk factors can be extrapolated to exotic mammals helping the practitioner recognize and then act appropriately to mitigate risk. Some of the most important factors for small mammals are stress, hypothermia and the inability to intubate and thus ventilate (more complete on next page):

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Potential Anesthetic Risk Factors for Exotic Mammals
Modified from 2020 AAHA Anesthesia Guidelines

- Anxiety/stress
- Alterations in body temperature
- Dehydration
- Cardiac arrhythmias
- Oliguria/anuria
- Abnormal blood values
  - Blood glucose
  - Anemia
  - Electrolyte imbalances
- Respiratory tract disease
- Inattentive monitoring
- No vascular access
- Inadequate recovery monitoring
- Inadequate patient home care

Stress

Most small exotic mammals have higher circulating catecholamines compared to dogs and cats making them predisposed to developing physiological changes associated with high stress. Physiological changes are caused by an increase sympathetic response leading to vasoconstriction, hypertension, tachycardia, elevated blood glucose and dysrhythmias. It is important to understand that the natural history of most of these species are prey animals and many are not handled nearly as much as dogs or cats. Taking a slow approach to handling with many breaks in a calm environment will lead to better success. The use of anxiolytics before arrival to the hospital or as a premedication can significantly reduce stress.

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Hypothermia

Small mammals are especially prone to developing hypothermia due to their small body size and high surface area to volume ratios. When completing a thorough physical exam, it is important to take a rectal/cloacal temperature. Hypothermia is a significant poor prognostic indicator for exotic mammals requiring immediate action. The use of heating pads, incubators or carefully placed hot water bottles should be started right away. Animals should be normothermic before sedation and/or anesthesia is started (exception ASA score V). Even normothermic small mammals can become hypothermic within minutes of starting anesthesia. Therefore, it is recommended to use circulating water blankets or heat pads that have been pre-heated prior to the administration of pre-medications. If administering fluid therapy, fluid warmers and bair huggers can also be used to warm the fluids. Fluids being administered subcutaneously should also be pre-warmed. While in recovery, active warming should be continued until the animal is normothermic, sitting up, and ideally eating.

Anesthesia Monitoring

It has been suggested that mortality rates are higher in exotic mammal species due to inattentive monitoring or lack of training in techniques to adequately monitor these patients. It is important to have one anesthetist assigned to each case that monitors the patient from administration of pre-medication to recovery (normal body temperature, eating). Because most of these patients cannot easily be intubated it is important to monitor ventilation closely. A tight-fitting facemask can be used to provide flow-by oxygen and inhalant anesthetic. In emergency situations, many times the patient can also be mechanically ventilate using a tight-fitting mask if respiratory arrest occurs. Standard anesthesia monitoring machines can be used to monitor exotic patients during sedation and anesthesia with minor adjustments to adapt to these patients.

Tips for Using Anesthesia Monitoring Equipment:

- Heart Rate
    - SPO2: Clips are sometimes too large to be placed on the tongue, but can be used on the paw, tail, ear or prepuce.
    - ECG: Non-traumatic clips can be used on most patients with good success. Alligator style clips should not be used but can be clipped to small gauge needles inserted into the skin. Do not used adhesive pads, as these can tear the skin when removed. Esophageal ECGs can also be used in larger patients.

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  - Utrasound doppler: The probe can be placed directly onto the heart, tail vein, or pedal vein for constant audible heart rate monitoring
  - Stethoscope: If all equipment is failing, the author's anesthetist will constantly listen throughout anesthesia as changes in heart rate can occur rapidly.
- Respiratory Rate
  - ETCO2: Readings can be obtained from a tight-fitting anesthesia mask, or an intubated patient. A side-stream adaptor can be fitted to a small ET tube to reduces dead-space. In the non-intubated patient, or patients with very small tidal volumes, the ETCO2 may show a low reading, however it typically will detect the respiratory rate parameter.
  - Direct visual monitoring: Ensure the patient is draped in a fashion where the anesthetist can see the patient breath.
- Temperature
  - Thermometers: Rectal or esophageal thermometers can be used throughout anesthesia.
- Indirect Blood Pressure
  - Oscillometric: Indirect blood pressure monitoring has been shown to not be reliably accurate in small mammals partially due to cuff size compared to limb size. However, this data can still be valuable in monitoring blood pressure trends throughout anesthesia. It is recommended that cuffs be placed on front limbs.
  - Sphygmomanometer: Using an ultrasonic doppler is likely a more reliable manner to measure blood pressure, however results should still be interpreted as a trend rather than direct values.

ormal ital Ranges for Select Species

Species	Rabbit	Guinea Pig	Chinchilla	Small Rodent	Hedgehog	Sugar Glider
Temperature (F)	101.3-103.1	100.4	98.6-100.4	Notroutinely taken	95.7-98.6	89.6F
Heart Rate (bpm)	200-300	150-380	100-200	250-500	170-250	100-200
Respiratory Rate (brpm)	32-60	50-140	20-80	70-200	18-90	16-40

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Choosing an Anesthetic Protocol

Protocols using multimodal anesthesia and analgesia are essential in mitigating risk. Recently pharmacokinetic and pharmacodynamic data (especially in rabbits) have become available leading to more refined anesthetic protocols. However, the amount of information available is still limited when compared to dogs and cats, therefore protocol creation remains to be still somewhat reliant on the experienced practitioner's trial and error. A good premedication drug combination should reduce stress, provide analgesia, induce muscle relaxation, and produce an appropriate level of narcosis. Most patients will require gas anesthesia to be administered via an endotracheal tube or anesthesia mask. Inhalant anesthetics cause dose-dependent cardiovascular and respiratory depression leading to hypotension. Rabbits have been shown to be more sensitive to the vasodilatory effects of inhalant anesthetics compared to other species. Appropriate pre-medications reduce the MAC of gas anesthesia helping to mitigate risk by allowing patients to be maintained on low levels of gas.

Anesthetic Protocol Recommendations*

*Author's preference through clinical experience and research

Rabbit Pre-medication Recommendations (IM)

- Midazolam: 0.5mg/kg
- Opioid (choose one)
    - Hydromorphone: 0.2mg/kg
    - Buprenorphine 0.01-0.03mg/kg
    - Methadone 0.3-0.6mg/kg
    - Butorphanol 0.2mg/kg (poor analgesia, good sedation
- Ketamine: 5-7mg/kg
- Dexmedetomidine: 5-10mcg/kg*

*Healthy, elective. Alfaxalone (1-2mg/kg) Propofol (2-5mg/kg) can be given IV for induction if needed

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Rodent Pre-medication Recommendations

Drug (IM)	Guinea Pig	Chinchilla	Small Rodent
Ketamine	5-10mg/kg	4mg/kg	5-7mg/kg
Hydromorphone OR Buprenorphine OR Butorphanol	0.3mg/kg 0.01mg/kg 0.2mg/kg	0.3mg/kg 0.01-0.05mg/kg 0.2mg/kg	0.3mg/kg 0.01-0.05mg/kg
Midazolam	0.25mg/kg	0.25-0.5mg/kg	0.25mg/kg
Dexmedetomidine	5-10ug/kg	5ug/kg	
Induction	If IV catheter can induce with 0.5-1mg/kg of alfaxalone or propofol to effect		

Hedgehog and Sugar Glider Pre-medication Recommendations

Drug	Hedgehog	Sugar Glider
Midazolam + (chose one below)	0.5mg/kg SC	0.5mg/kg SC, IM
Butorphanol	0.5mg/kg SC	0.5mg/kg SC
Buprenorphine	0.03-0.05mg/kg SC	0.01mg/kg IM
Ketamine	3-5mg/kg SC	10mg/kg SC
Alfaxalone	3mg/kg SC	No data
Isoflurane	Via induction chamber followed by facemask	

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Lecture Notes

End of Life Care

Stacy Montgomerie, DVM, CHPV

Hospice/palliative care are intimately linked and often used interchangeably, palliative care is broader than hospice since a terminal diagnosis or life-limiting illness is not required for palliative care.

Perspectives of Hospice definition: Hospice from the International Association for Animal Hospice and Palliative Care (IAAHPC): Hospice exists to provide support and care for patients in the last phases of an incurable disease, or at the natural end of life. Hospice definitely incorporates all of palliative care; and is defined as a philosophy, a specialized program of care, and in some instances, an actual place for the dying. (IAAHPC.org)

Hospice from American Animal Hospital Association (AAHA): Animal hospice care addresses the patient's unique emotional and social needs as well as the physical needs traditionally treated in clinical practice. An EOL treatment plan should consist of client education; evaluating the caregiver's needs and goals for the pet; and a collaborative, personalized, written treatment plan involving the clinical staff and client. (2016 AAHA/IAAHPC End-of-Life Care Guidelines)

Hospice from American Veterinary Medical Association (AVMA): As is the case in human hospice programs, animal patients must have a terminal illness with a short life expectancy. The veterinary end-of-life care team must include a veterinarian and trained staff who provide expertise in palliative care and pain control for such terminally ill animals. It is desirable to include other counseling and care professionals, however advice regarding veterinary care should only be provided by veterinary professionals. (AVMA.org)

Hospice care focuses on providing the best quality of life possible for a pet with a terminal disease or condition until the pet dies or is euthanized. Hospice care also helps caregivers by providing them with time to adjust to the coming loss of their companion. The care is tailored to the needs of both the pet and the caregiver. (petmd.com)

Hospice Team: Caregivers (owner/family), companion animal, hospice veterinarian, veterinary support staff, veterinarian team (primary care veterinarian, veterinary specialists etc.), counselors/therapists/grief support, clergy

Medical management of disease: pain management, symptom management beyond pain, diagnostics (depending on caregiver goals/wishes), palliative procedures

Psychosocial support of caregivers: This is a very important part of any hospice support plan. The caregiver's life situation provides the framework for care of the patient. There are many factors to consider when making a care plan for the patient based around the caregiver framework, the following is a brief list for consideration: family dynamics (multiple caregivers, household dynamics, other ill family members etc.), caregiver financial situation/work life, caregiver's previous experience with loss of a loved one, caregiver/patient housing, caregiver/family spiritual beliefs etc.

Dying process planning: is euthanasia preferred? how is the procedure preferred (in-home, planned or spontaneous etc), is natural death preferred (with hospice support/palliation of discomfort ethically required), how will an emergency change the caregiver's plan? Aftercare wishes (wake, cremation, burial, taxidermy, remembrance momentos etc).

After-death care for the caregiver: caregiver check in, providing grief support options, intervention for complicated grief (social worker support, government resources, suicide prevention support options), memorial services, memorial gifts to charity.

Dovelewis Hospice Service contact information:
hospice@dovelewis.org
503-546-1880 (direct hospice line)

If you have any questions, would like a DVM consultation about a patient or a copy of the full case study from this lecture please feel free to send me an email: smontgomerie@dovelewis.org

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Lecture Notes

Journal Club Potpourri

Ladan Mohammad-Zadeh, DVM, DACVECC

Prazosin administration increases the rate of recurrent urethral obstruction in cats: 388 cases. Conway et al., JAVMA June 2022. Vol 260. S2

- OBJECTIVE: To determine if prazosin administration decreased the rate of recurrent urethral obstruction (rUO) before hospital discharge and within 14 days.

- Controversy for use of prazosin in cats
    - Feline urethra is only composed of smooth muscle along the proximal 28% to 37% of its length
    - Distal urethral musculature is striated muscle, which is not relaxed by α1 -adrenoreceptor blockade.
    - The majority of urethral obstructions are thought to occur in the distal urethra, well out of reach of the pharmacological activity and potential smooth muscle relaxant effect of prazosin

- Part I – observational
    - Veterinarians who self identify as either ALWAYS or NEVER using prazosin were recruited for an observational study to enroll UO cats. Data collected included BCS, difficulty of unblocking, treatment regimen, whether cat reblocked during hospitalization or by Day 14. Respondents could either prospectively or retrospectively submit cases

- Part II – aggregation of data from 3 previous studies
    - Hanson 2021 – mixed retrospective comparing prazosin versus prospective placebo administration on rUO rates
    - Reineke 2017 – prospective comparing prazosin versus placebo on rUO rate at 30 d.
    - Hetrick 2013 – retrospective comparing phenoxybenzamine and prazosin on rUO rates at 30 days

- Cats given prazosin 302 (78%) – notably higher than non prazosin group

- Cats not given prazosin 86 (22%)

- The perception of a “gritty feeling urethra” or difficulty of performing the catheterization was associated with increased risk of rUO.

- Distribution of cats identified as difficult to unblock was equal between prazosin and non prazosin groups

- Rate of recurrent UO before hospital discharge
  - Prazosin Group 34 of 302 (11.3%)
  - Non prazosin Group 5 of 86(5.8%)

- Day 14 post discharge*
  - Prazosin group 73/302 (24%)
  - Non prazosin group 11/86 (13%)

- 2017, Reineke: Prospective evaluation of rUO in 45 cats treated with prazosin versus placebo.

- 26 cats Prazosin – 2/26 (7%) rUO in hospital, 4/26 (15%) 1 month later

- 19 cats placebo – 1/19 (5%) rUO in hospital, 3/18 (17%) 1 month later

- No significant difference was identified between groups

- 2021, Hanson : Mixed retrospective and prospective evaluation of 65 cats

- Retrospective Prazosin data: 11 of 37 (29%) developed rUO within 30 days

- Prospective Placebo data: 5 of 28 (18%) developed rUO

- Their stats did not show difference between group, underpowered

- Taking Part I and Part II data together.
  - 87 of 365 (24%) cats treated with prazosin developed rUO
  - 17 of 133 (13%) of cats not prescribed prazosin developed rUO.

- Authors touted this to be a prospective study when there was retrospective data included both in the observational portion and the aggregated data they used.

- Part I included 3.5 x more prazosin cats than non prazosin cats

- They initially included data from a large retrospective Hetrick 2013 in the aggregated data that actually made their results show there was NO difference in recurrent UO rate but since that study was 100% retrospective they opted not to include it in their final conclusions.

- This study is a great example of not taking the title at face value. Digging deeper there is reason to question their conclusion.

- How will this change your approach to at home FLUTD management?

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- Retrospective evaluation of risk factors for development of kidney injury after parenteral furosemide treatment of left-sided congestive heart failure in dogs. Giorgi et al., JVIM. Oct. 2022
- Determine risk factors for development of kidney injury in furosemide treated dogs and determine the effect of kidney injury on survival
- 79 client owned dogs receiving parenteral furosemide
- Hypothesis: higher dose of furosemide dose, higher baseline creatinine or use of furosemide CRI associated with higher risk of AKI and negatively affect long term survival
- Timepoint 1 – first serum creatinine measurement within 6 hrs of first furosemide administration
- Timepoint 2 – highest creatinine measurement in hospital OR follow up creatinine measurement while hospitalized
- Timepoint 3 – follow up creatinine measurement after discharge
- AKI defined as 0.3mg/dL increase from baseline creatinine in 48hrs
- Grade I < 1.6 mg/dL
- Grade II 1.7 o 2.5 mg/dL
- Grade III 2.6 – 5.0 mg/dL
- 35/79 dogs (44%) were alive at the end of the study period, with median follow-up time of 218 days from TP1.
- 44/79 (55%) dogs died during the study period, with median survival of 149 (range, 4-734) days from TP1.
    - Only 4/44 (9%) dogs, death was categorized as renal.
- Median survival time did not differ between dogs with documented AKI at any point during the study compared to those without AKI (127 vs 160 days; P = .9), nor did survival differ between dogs experiencing Grade II or III AKI compared to all other dogs (median survival, 134 vs 155 days; P = .6). Four dogs with Grade II AKI and 2 dogs with Grade III AKI lived >1 year from TP1 (1 dog died after 559 days;
- 5 were still alive after 366, 502, 510, 540, and 579 days)

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- Conclusions
  - Some degree of increased creatinine is expected when treating with furosemide
  - Some studies suggest that higher increase in creatinine during hospitalization results in better outcome long term
  - Food for thought: renal congestion secondary to CHF can contribute azotemia
  - Don't let only degree of azotemia dictate how you alter furosemide dosing at home
  - Early signs of worsening congestion (before pulmonary signs) include decreased appetite (GI congestion) and azotemia (renal congestion)

Environmental risk factors for the development of oral squamous cell carcinoma in cats. Zaccone et al., JVIM. 2022

- Oral SCC accounts for 70-80% of oral tumors in cats
- Because it is locally aggressive and generally not found until it is advanced, it would be beneficial to identify risk factors to improve screening and early detection
- in humans there is a link between oral inflammation and cancer
- Chronic Gingivostomatitis and periodontal disease are prevalent in cats.
  - Some research has demonstrated a DNA alteration of tumor genes in cats with stomatitis that may suggest these cats are at higher risk.
- Last comprehensive publication outlining risk factors for cats in developing SCC was in 2003
  - tobacco smoke
  - Use of flea collar (ingestion of carcinogens while grooming)
  - Canned food diet – additive chemicals may be risk factor or the promotion of periodontal disease
- Retrospective portion gathered last 20 years of data on all cats with oral SCC
- Prospectively collected data on cats with confirmed oral SCC 2018-2020 whose owners completed an anonymous online questionnaire
  - Lifestyle :Indoor, outdoor, rural v. urban, cohabitates with other cats
  - Diet: If canned food further designate "Premium" brand versus "low cost" and "additives" present
  - Lives with smoker
  - Ectoparasite control – specifically with topical treatment
  - History of oral inflammation

- Control cat data was obtained via online questionnaire through social media to cat owners – 500 cats without oral SCC

- Retrospective data - 594 cases cats with oral SCC
    - 13/101 cats FIV data available were positive (13%)
    - 3/102 cats FELV data available were positive (3%)
    - 44/143 cats (30%) where oral inflammation history was available indicated recurrent gingivostomatitis, periodontitis, multiple dental extractions or eosinophilic granulomas

- Prospective portion: Owners of 100 cats with oral SCC completed questionnaire similar to control group

- Risk of development of Oral SCC compared to control group included
    - Rural living environment (OR = 2.02)
    - Outdoor access (OR = 1.86)
    - Wet diet ≥50% (OR = 1.81)
    - Consumption of cat food brands with high chemical additives (OR = 2.08)
    - Consumption of low-cost cat food brands (OR 1.93)
    - Positive FIV status (OR 2.44)
    - Notably, presence of oral inflammatory disease was not a significant contributing risk factor

- Nicotine exposure when taken as an individual variable did not meet statistical significance for being identified as a risk factor

- When taken in combination with other factors (multivariate analysis), it did emerge as a risk factor (OR 1.77, p=0.3)

- Even though oral inflammation wasn't identified as a risk factor to develop oral SCC, separate analysis was done to identify risk factors in development of gingivostomatitis (same variable were examined) and there was overlap
    - Outdoor access*
    - FIV positive*
    - Regular topical ectoparasite application
    - Cohabitation with other cats

- Conclusions
    - Like most diseases risk for development of oral SCC is likely multifactorial
    - This newer information may help veterinarians better discuss possible risk factors with owners to increase awareness and encourage regular vet visits
    - May give veterinarians more robust stance to encourage higher quality diets and dry diets

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Owner experiences with and perceptions of owner-witnessed CPR in veterinary medicine Gradilla et al., JVECC 2022;32:322–333.

- Family centered approach to patient care in human medicine has resulted in concept of Family Witnessed Resuscitation (FWR)

- Proposed benefits of FWR
  - Helps family understand the severity of the patient's condition
  - Offers family time to grieve and say goodbye
  - Creates bond between family and medical team, strengthening family's faith that medical team is doing everything they can and are being truthful about the patient's condition

- Concerns surrounding FWR
  - Presence of the family may compromise the efficiency and decision making of the medical team
  - Emotional reaction of the family creates distraction
  - Risk of liability and litigation

- Recent studies have shown that family members report they did not suffer adverse psychologist effects and were less likely to experience post traumatic stress and depressive disorders compared to family members that did not witness resuscitation

- Several surveys of health care providers who are involved with FWR report that presence of family does not interfere with the resuscitation efforts and handle it well overall

- 2020 study reported on pet owner's lack of understanding of CPR and highlighted owner's misperception of success rates

- Only 1 published survey of veterinary professional viewpoint on Owner Witnessed Resuscitation (OWR)

It largely echoed the concerns brought up on the human side

- This is the first published data on *owner's* experience and perception of witnessed CPR

- Survey questions relating to owner's familiarity with CPR, whether they were offered the option of being present

- If owners were present they received additional survey questions

- They were asked if they had been present for human CPR and how this might influence their decision for their pet

- 407 surveys included in analysis
- 13 respondents witnessed resuscitation and 394 did not
- in depth questions about if witnessing CPR would...
    - help owner understand the severity the pet's condition
    - help them cope with the outcome
    - Be a difficult last memory for owner to have
    - Give the owner confidence that the care team was doing everything they could
    - Create emotional distress or contribute to depression or post traumatic stress
- 78% respondents said they should be offered the opportunity to witness CPR
- 12/13 of the those who were previously present for CPR would elect to do it again with another pet given the opportunity
- 8/79 (10%) of those who reported being present for human CPR also were present for pet CPR
- The 79 people who reported being present for human CPR were more likely to "strongly agree" they would like to be present for pet CPR compared to those who had not witness human CPR
- Of the 13 who witnessed CPR, there were 10 women and 3 men
- For those who witnessed CPR
- Overall positive experience
- 8/13 reported it was upsetting to witness CPR
- 3/13 reported it was difficult last memory to have
- 12/13 felt their presence did not negatively impact the work of the medical team
- 13/13 agreed that witnessing CPR helped them better understand the process
- 50% all respondents who agreed witnessing CPR should be offered to clients would themselves not elect to be present
- There was a much higher "unsure" response to the idea of being offered to witness CPR by those who had not previously witnessed human CPR

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- 68% all respondents agreed or strongly agreed that being present would be comforting to their pet and would make them feel they did everything they could
- 60% all respondents reported it would give them closure if the pet passed
- 48% all respondents believed it would be a difficult last memory to have
- 50% believed being present would be emotionally difficult – women>men
- Younger respondents were more likely to want a healthcare provider present to explain the events of CPR compared to people > 50 yr
- Free written comments from 100 random respondents were further analyzed
- Overall sentiment is that witnessing CPR is something that should be offered and that any emotional burden would be reasonable to take on in order to comfort their pet.
- Being present would alleviate the owner's anxiety of not knowing what was happening
- Some commented that they would be able to recognize if they were not emotionally capable of being present and would remove themselves if needed
- Some acknowledged that being present is a personal decision and may not be appropriate for everyone
- It was suggested if owner witnessed resuscitation is an option that a facilitator not involved in the CPR should be available to help guide owners through the process
- Compared to human medicine, we are more naturally focused on family centered care
- Many clinics already have policies in place either encouraging or discouraging clients being present during procedures
- We should be confident in our abilities, both technical and medical decision making
- There is value in owner witnessing treatments administered to their pet
- Medical staff should feel comfortable answering owner's questions or explaining the treatments
- Consider hiring communications specialist to help coach staff

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Lecture Notes

Building Belonging and Connection During Times of Challenge

Sonja Zabel, DVM, MS, DACVD – she/her
Sarah Harris, CVT, VTS (ECC) – she/her
Monica Maxwell, SPHR, SHRM-SCP, MBTI – she/her
Debrah Lee, LCSW – she/her

Working in the field of veterinary medicine is both challenging and rewarding. In times of stress, it may feel as though the work is about mere survival; however, it can also be work that supports thriving – as individuals and as a community. Our connection with our teams greatly impacts our experience in the workplace and influences our work. Interpersonal dynamics in the workplace matter – particularly whether we feel that we have a voice.

"Psychological safety is a belief that one will not be punished or humiliated for speaking up with ideas, questions, concerns, or mistakes, and that the team is safe for interpersonal risk-taking." - Amy Edmondson

Amy Edmondson's early research looked at adverse drug events in human hospitals. They initially hypothesized that the most cohesive teams would have the fewest errors. Instead, what they found is that the teams with the greatest cohesion had the greatest number of reported errors. That sense of cohesion was identified as psychological safety. Psychological safety gives people voice. It enables them to be able to share their thoughts, ask questions, and make mistakes. (Mistakes in healthcare can be particularly fraught. We may get stuck vacillating between two thoughts: mistakes are bad, and mistakes are a part of living.)

Did you ever have an idea or suggestion that you didn't voice? Was there ever a time when you didn't ask for help? Have you ever seen someone make a mistake and not say anything? Have you ever made a mistake and didn't tell anyone? Were you ever struggling but didn't tell anyone?

When we don't feel safe, we withhold. We keep the gift of learning from ourselves and others. A lack of safety may also drive us into a stress response (fight, flight, freeze, or fawn), which inhibits our ability to think and connect. Connection cannot happen in the absence of safety. Psychological safety is the bridge between surviving and belonging.

Belonging is a core human need. We cannot build connection without voice – i.e., psychological safety – and we cannot feel safe if we don't feel that we belong.

1. *Edmondson AC. Learning from mistakes is easier said than done: Group and organizational influences on the detection and correction of human error. The Journal of Applied Behavioral Science. 1996;32(1):5-28. doi:10.1177/0021886396321001*

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"Because true belonging only happens when we present our authentic, imperfect selves to the world, our sense of belonging can never be greater than our level of self-acceptance." - Brené Brown, Gifts of Imperfection

"True belonging is not something you negotiate externally, it's what you carry in your heart. It's finding the sacredness in being a part of something." - Brené Brown, Braving the Wilderness

Belonging is intimately connected with the relationship that we have with ourselves. We also live within and are influenced by multiple systems and social contexts based on our unique life experiences and circumstances over time. These factors – our identities of privilege and/or marginalization; relative position within an organization due to hierarchy, seniority, or technical skills; the communities in which we have previously or currently reside – can contribute to our understanding and sense of belonging.

Workplace Behavior Continuum

2. University SC. Theoretical framework. Theoretical Framework - Office for Multicultural Learning - Santa Clara University. https://www.scu.edu/oml/about-us/theoretical-framework/#:~:text=Bronfenbrenner's%20ecological%20systems%20theory%20is,every%20facet%20of%20your%20life. Accessed October 7, 2022.

The Merck Veterinary Well-Being Study III found that one of the most important actions that employers can take is to provide a climate that fosters well-being and mental health, which includes creating a strong sense of belonging to a team and candid and open communications among team members. In the workplace, we all have a role and opportunity in influencing the conditions for belonging by upholding dignity – i.e., seeing and cherishing unique identities and treating others with respect. We get to belonging through inclusion.

Our panelists offer a few guiding principles that support them as they seek to practice respectful behavior in the workplace with the aim of fostering inclusion and promoting psychological safety.

- Assume generously
- Allow for multiple truths
- Lean into curiosity
- People are experts in their own lives
- Be aware of the wake you leave behind

Practicing communication and having respectful conflict can be challenging and developing a better understanding of the relationship between intention and impact can be a helpful part of the process.

"The only way to know what someone intended is to ask them – and the only way to let a person know their impact is to tell them." - Center for Creative Leadership

Our panelists also offer some of their intrapersonal and interpersonal strategies that support them in practicing respectful behavior in the workplace with the aim of fostering inclusion and promoting psychological safety.

Intrapersonal Tools	Interpersonal Tools
• Practice self-awareness • Self-compassion[4] • QTIP: Quit Taking It Personally • "But what if it's fine?" • 30 seconds of something that you enjoy • Affirmations • Take your breaks • To do list & It's ok NOT to do list	• Find your pause • Ask yourself: Is it... True? Necessary? Kind? Is it useful? • Reflect, Acknowledge, Apologize • Communicate your needs • Call people in rather than calling them out

3. Veterinary wellbeing study. Merck Animal Health USA. https://www.merck-animal-health-usa.com/about-us/veterinary-wellbeing-study. Published February 8, 2022. Accessed October 7, 2022.

4. To learn more about self-compassion, visit Kristin Neff's website (https://self-compassion.org/), which offers more information including guided practices

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Lecture Notes