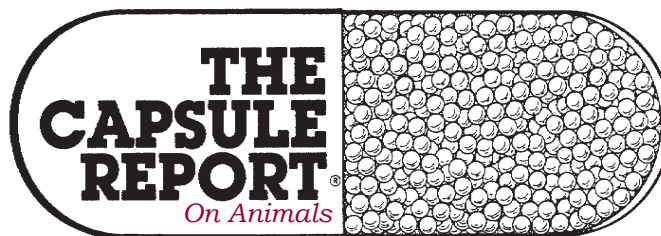


A digest of practical and clinically relevant information from this month's journals and proceedings



Small Animal/Exotic Edition

Our 30th Year

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Feline otitis

One of the most common predisposing causes of feline otitis is the use of a cotton swab to remove normal ear canal excretions. Some cats have excessively waxy ears and should be left alone. One of the most important, yet least discussed factors, is the allergic or irritant reaction that occurs after application of topical medications. Antiinflammatory corticosteroids may be the cause of the reaction. This is counter intuitive considering that these should reduce the amount of inflammation, not be the cause of the problem. One of the major differences in the approach to treating otitis in the dog from cats involves the usage of topical medications. Topical medications are the mainstay of success in canine otitis. It is the opinion of this author that they **should be avoided in treating cats**. The author has successfully treated refractory otitis in the cat simply by discontinuing the use of topical medications. For undefined reasons, cats tend to develop irritant reactions and true contact allergy reactions in the ear pinna and canal at a significantly higher rate than in dogs. Also, the author has been able to treat many cases successfully without the use of topicals. This is rarely the case in dogs. Lastly, cats hate topical products. Their fastidious nature causes them to frantically remove any topical agent applied to the skin surface. This is a potential source for aural hematoma formation and also for the clients to be wounded by a fractious cat. The author's advice is to avoid the use of topical medications in the cat!

Robert A. Kennis DVM, MS, Dip ACVD
Cent Vet Conf West Procd, 10:07

Starting puppy socialization

Many veterinarians warn owners not to let puppies go out until they complete their vaccination series, at around 14 weeks of age. Behaviorists say that is too late, and socialization should begin "almost in utero." The window of socialization is the first 3 months of a pup's life. Early socialization is so important that a recently issued position paper on puppy socialization from the American Veterinary Society of Animal Behavior

(AVSAB) states that "Puppies should be exposed to as many new people, animals, stimuli and environments as can be achieved safely and without causing overstimulation manifested as excessive fear, withdrawal or avoidance behavior." Puppy socialization classes can be a useful step toward behavioral wellness.

The AVSAB now says that puppies can enter training programs as early as 7 to 8 weeks of age, as long as they receive a minimum of one set of vaccines at least 7 days before the first class and the first deworming. They should be kept up-to-date on vaccinations throughout the class. For more information, go to: www.avsabonline.org/avsabonline.

Vet For, 25:6

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Reducing the dose of vaccine

Can one reduce the volume (e.g. from 1 ml to 0.5 ml) of vaccine when inoculating a toy breed dog? No-doing so may leave the toy breed (small dog) susceptible for one or more of the diseases you're trying to prevent. In the case of RABIES, reducing the volume is equivalent to NOT IMMUNIZING the patient. In some locations, doing so could represent a breach in the Standard of Care. ("Small Breed"

dogs are generally considered to be those that weigh less than 20 pounds as adults). Arbitrarily administering a reduced volume of a vaccine dose is not condoned by either the AAHA Canine Vaccine Task Force, the AAFP Feline Vaccine Advisory Panel, nor any manufacturer.

Richard B. Ford, DVM, MS, Dip ACVIM
PA VMA Winter Sem Procd, 02:11

Determining if a cat is castrated

Bilateral cryptorchid cats and unilateral cryptorchid cats in which surgical removal of the scrotal testicle has been performed may be mistaken as neutered cats due to the absence of scrotal testes. Such cats may present for sexual behaviors including spraying, fighting and mounting or for urine odor. Demonstration of penile spines is consistent with a diagnosis of the presence of a testicle. An increase in serum testosterone concentration following administration of hCG or GnRH may

The Capsule Report.

be used for diagnosis of retained testicle(s) in the cat, but is not necessary. Penile spines are reliable external indicators of the presence of testosterone in male cats, and are present in unilateral and bilateral cryptorchid cats. Penile spines begin to appear in kittens as early as 12 weeks of age and are obvious by 6 months of age. They regress within 6 weeks following castration, and the mucosal surface of the penis becomes flat and smooth. The presence of penile spines may be considered diagnostic for the presence of a testicle.

*Brenda Griffin, DVM, MS, Dip ACVIM
N Am Vet Conf, Procd, Vol 22*

IVD and electroacupuncture

This study evaluated the differences between treatments of dogs with severe neurologic symptoms secondary to inter-vertebral disk herniation. All dogs developed clinical signs >48 hours before presentation. Ten dogs treated with decompressive surgery were retrospectively selected. Thirty dogs were prospectively evaluated after undergoing electroacupuncture or decompressive surgery followed by electroacupuncture. Treatment was considered a clinical success if a patient improved to the lowest grade of clinical dysfunction (pain only in the vertebral region with no abnormal neurologic signs, ability to bear weight with deficits of proprioception and ambulatory paraparesis), were able to walk without assistance, or recovered deep pain perception by 6 months. Only 4 of 10 dogs that underwent decompressive surgery showed improved neurologic function by 6 months after surgery. This proportion was significantly less than dogs that improved in the electroacupuncture or the surgery plus electroacupuncture groups. The authors concluded that patients did better with nonsurgical intervention if they presented with severe neurologic symptoms that had existed for longer than 48 hours. Electroacupuncture alone may be a good approach for conservative treatment of dogs with disk disease and severe neurologic dysfunction if surgery is not an option because of financial or logistic reasons. Veterinary patients with intervertebral disk disease and no deep pain perception are often euthanized, so awareness of novel approaches to recovery is very important.

*J.G. Joaquim, et al.
NAVC Clin Brf, 8:9*

Treatment of chylothorax

Idiopathic chylothorax is a serious condition that is difficult to treat. Medical management, which includes feeding a low-fat diet, performing thoracentesis as needed, and administering a benzopyrone, is often unsuccessful. A low-fat diet potentially lowers the amount of fat in the effusion, which allows the fluid to be re-

sorbed more effectively from the thoracic cavity. Benzopyrone drugs, such as rutin, have been used to treat lymphedema in people for years. The exact mechanism of action of rutin, which is a bioflavonoid extract from plants, is unknown; however, rutin may reduce leakage from blood vessels, increase proteolysis and removal of protein from tissues, and enhance macrophage phagocytosis of chyle. Unfortunately, evaluating the efficacy of rutin in cats has been difficult because cats can experience spontaneous resolution of idiopathic chylothorax. Rutin can be obtained at a vitamin store, and the dosage is 50-100 mg/kg, PO, q8h.

*Peter Nurre, DVM et al.
Vet Med, 103:9*

Anesthesia combination

After studying different combinations to anesthetize a cat for neutering, the authors recommended dexmedetomidine-ketamine combined with either butorphanol or hydromorphone commencing 10 minutes after drug administration. Oxygen supplementation is strongly recommended when these protocols are used. The recommended dosages are: dexmedetomidine at 25 µg/kg, ketamine at 3 mg/kg, and butorphanol at 0.2 mg/kg; dexmedetomidine at 25 µg/kg, ketamine at 3 mg/kg, and hydromorphone at 0.05 mg/kg.

*Jeff C. Ko, DVM, MS, Dip ACVA et al.
JAVMA, Dec 1, 2011*

Flushing the Pseudomonas ear

You may need to postpone until there is a decrease in the inflammation in the canal. Prednisone 1-2 mg/kg/day for 4-7 days with a topical corticosteroid, such as flucinolone, is very useful prior to deep ear flush under anesthesia. The day of the procedure, be sure to collect a sample for cytology before flushing. Always, always, always use an endotracheal tube with a good cuff! Anesthetized or heavily sedated dogs lack a gag reflex and may aspirate irrigation fluid with microorganism and debris. The fluid can easily run through the ruptured tympanum, through the tympanic bulla, down the Eustachian tube, into the oropharynx, down the trachea and into the lower respiratory tract. Also, be sure to protect the eyes with excessive amounts of sterile lubricant. Tilt the head to prevent irritating irrigation fluids with debris, bacteria, and bacterial proteases from running over the eye and damaging the cornea. Finally, be sure to warm the sterile saline or other flush solution prior to cleaning. Large volumes of room temperature fluid should not be used! You are very close to the brain and the brain is at body temperature. Cool or room temperature fluid will be very painful over time.

*John c. Angus, DVM, Dip ACVD
N Amer Vet Conf, Vol 22 Procd*

Topical therapy of cataracts

In terms of medical management, there have been some highly publicized/advertised/ marketed topical therapies that are touted to "melt away" cataracts. The old adage that says if it sounds too good to be true

it probably applies here. These eye drops are generally anti-oxidants, specifically N-acetyl carnosine and other ocular health vitamin supplement agents marketed under several names. They may in fact reduce oxidative damage to the lens and in a controversial study did decrease lens opacity in cases of nuclear sclerosis and incomplete cataracts. However, they do not eliminate or slow further progression of significant cataracts that we see in dogs that actually warrant treatment due to their visual impact (late incomplete and complete), probably due to the relatively large size of the canine lens and the high density of cataract opacities in this species. The bottom line is that these may be “useful” for cases where treatment is not really indicated as there is no visual impairment or other complication, but not for those already visually impaired. Furthermore, these medications are generally expensive, and can provide a false sense of security to clients

*Kathryn Diehl, DVM, MS, Dip ACVO
WI VMA Conf Procd, Oct 2011*

Treating suspected Giardia cases

The question whether animals that are asymptomatic carriers of Giardia should be treated is often asked. Giardia cysts have been found in many animals with well-formed feces. Giardia is clearly not pathogenic in some animals, while in others it causes significant enteritis. Because the public health considerations must still be considered, it is recommended that all animals with fecal samples that contain Giardia be treated. In hospital and kennel/cattery situations (controlled environments), moving animals away from contaminated areas so they can be cleaned and decontaminated is very important. Steam cleaning after all fecal material has been removed is very effective. Chemical disinfection can be effectively accomplished using quaternary ammonium-containing disinfectants which will inactivate cysts in one minute at room temperature. The area should be allowed to dry completely and if possible left open for a few days. Animals should be bathed with a general cleansing shampoo before being returned. In some situations, e.g., shelters, research facilities, it may also be advisable to bathe the animals a second time, especially around the perianal area, using a quaternary ammonium compound. These can be safely left on the coat for 3-5 minutes, before being thoroughly rinsed off (longer exposure can cause irritation). Allow the coat to dry thoroughly before returning the animal to the clean area, and then administer one more course of anti-Giardia therapy, preferably using a different drug than was used during the initial course.

*Todd Tams, DVM, Dip ACVIM
MT VMA Sum Conf Procd, 06:08*

Atopy and water

Water itself has great hydrating, cooling, and moisturizing effects when used along with effective emollients and humectants. It cannot be stressed enough that cool water should be used. Many owners will use warm or even hot water because they are use

to doing this when they wash their own hair and are trying to maximize latherability. It is also important that after the shampoo and when the skin is still wet that a leave-on rinse or spray be applied to increase residual activity. These can also be utilized between shampoos but are more effectively applied when the skin and hair are wet. The exception might be the ceramide sprays and spot-ons that are meant to be applied when the skin is dry.

*Kenneth W. Kwochka, DVM, Dip ACVD
SCVMA Derm Sem, Nov 2011*

Selamectin in rabbits

Selamectin was rapidly absorbed transdermally and was rapidly eliminated in rabbits. Results of this study suggested that topical administration at a dosage of 20 mg/kg every 7 days is efficacious for treatment of flea infestation in rabbits. Further studies are needed to assess long-term safety in rabbits following repeated applications.

*James W. Carpenter, MS, DVM et al.
Am J Vet Res, Apr 2012*

Carnitine for hypoglycemia

Manage toy breed or puppy hypoglycemia by administering carnitine. This can be a frustrating problem for the practitioner and client, where the most popular recommendation is to provide frequent feedings, which may or may not resolve the problem. Some fatty acid oxidations disorders in human infants respond to the administration of carnitine, which helps move fatty acids into the mitochondria for energy production. This author uses carnitine at 50 mg/kg, twice daily (tablet and liquid forms are available at any health food store). Hypoglycemic episodes diminish or disappear, the puppies are more active, and weight gain is more rapid. The author recommends **using carnitine until the puppies are 9-12 months old.**

*Kenneth Harkin, DVM, Dip ACVIM
Cent Vet Conf Procd, 09:07*

Blood glucose meters

Home monitoring is advisable in many cases, but some owners will go overboard with their level of blood glucose monitoring, so make sure that you are seeing those patients in the clinic from time to time and advising owners appropriately. It is also good to remember that all blood glucose meters are not the same. The ease of use and blood volume required can vary from brand to brand, so become accustomed to one type and be consistent. Another consideration is that human blood glucose meters have a built in bias at lower concentrations. They are still useful for dogs and cats, but this bias must be taken into consideration. Based on a

University of California-Davis study, the **most precise meters for dogs and cats** are the Alpha Track (Abbott) and the One Touch Ultra (LifeScan).

*J. Catharine Scott-Moncrieff, MA, Vet MB, MS, Dip ACVIM
Vet Med, 106:12*

Charges for hospice care

Determining what to charge for hospice-related services can be an obstacle. The challenge is to properly introduce both the medical aspects of hospice care and the adjunctive services that make the human equivalent successful while also earning a profit. Establishing charges for hospice-type services is simple in stationary clinics, but for mobile services the “bread and butter” remains in-home euthanasia. In-home hospice consultations and examinations take twice as much time as traditional appointments, and it’s difficult to charge for services that need to be repeated—especially ones that only a veterinarian can perform (e.g., thoracentesis). Successful mobile programs use veterinary technicians in conjunction with one or more veterinarians who oversee patient care. As of February 2012, charges for in-home care were \$30-\$40 an hour for technician time and \$100-\$150 an hour for doctor time.

*Dani McVety, DVM
NAVC Clin Brf, Feb 2012*

Determining deafness in a dog

When owners come in reporting that their senior dogs are deaf or losing their hearing, this practitioner reaches for the iPhone, which has the PetSnap application—an app that plays sounds such as a crying puppy or an angry, hissy cat to get the attention of a pet while its photo is being snapped. It is amazing how many dogs’ ears perk up or how many dogs cock their heads and turn and look for the source of the sound. Owners are relieved to find that their dogs’ hearing could quite possibly be selective.

*Dr. Amy Lacy
Vet Med, Mar 2012*

Darbepoetin-alpha dosage

The usual starting dose for darbepoetin is 1 µg/kg, once a week for cats and dogs. For the 1 ml bottle containing 25 µg, often the author gives 0.25 ml or 6.25 µg/cat. Smaller cats can be given less. Weekly treatments are continued based on the increase in PCV. Often, after 3-4 weekly treatments, the dose interval can be increased to every 2-3 weeks, and with time further increased to every 4 weeks or more. This will be based on each individual’s PCV. ESA’s cannot work effectively in the face of iron deficiency. It is recommended to give iron while administering any ESA. Oral iron is not well absorbed and has a disagreeable taste for most patients, especially cats. The author prefers to use IM iron dextran at the time of initiating treatment, and again if needed. For cats, 50 mg/cat is used, and in dogs 10-20 mg/kg. Often the question of when to start treatment is asked. In broad terms, for cats a PCV under 20%, and

for dogs under 25% is a basic guideline, but clinical signs of the individual must also be taken into account.

*Debra Rackear, DVM, Dip ACVIM
SO Cal VMA Pulse, Dec 2011*

Anaphylaxis

First aid in veterinary medicine is limited and owners should be educated to recognize the early signs of anaphylaxis and to seek veterinary care immediately. Owner administration of epinephrine via an EpiPen (commercially available auto-injection of epinephrine made for people) has been recommended by some. Before making such a recommendation it is important to consider the role of epinephrine and the risks associated with owner administration. Epinephrine is used in human medicine to treat acute bronchospasm and upper airway edema. It would also be beneficial in acute cardiovascular collapse secondary to vasodilation but this event is rare. Acute airway compromise appears to be uncommon in small animal patients with anaphylaxis. More commonly hypovolemia and gastrointestinal signs are present and these require intravenous fluid administration. Owner administered epinephrine is not likely to benefit the majority of patients, may delay the immediate transport of animals to a veterinary facility and there may be some risk of owners being bitten while attempting to administer the drug. Lastly, there is an issue of dosing. The adult EpiPen contains 0.3 mg of epinephrine and should only be given to animals weighing 30 kg or more. The EpiPen Jr contains 0.15 mg of epinephrine and would be appropriate for dogs of 15-30 kg. There is no appropriately dosed EpiPen for animals less than 15 kg.

*Kate Hopper, BVSc, PhD, Dip ACVECC
112th Penn Vet Conf Procd, Mar 2012*

Tramadol use in cats

From this study, clinical observations and the lack of need for further analgesic intervention suggest that tramadol (2 mg/kg, IV) might be useful as an intra- and postoperative analgesic in cats sedated with acepromazine and undergoing gonadectomy. This research demonstrates and verifies at least one other study—that cats are capable of converting tramadol to an active metabolite, M1. M1 is believed to be more critical to induction of analgesia than tramadol itself.

*James S. Gaynor, DVM, MS, Dip ACVA
NAVC Clin Brf, Sep 2011*