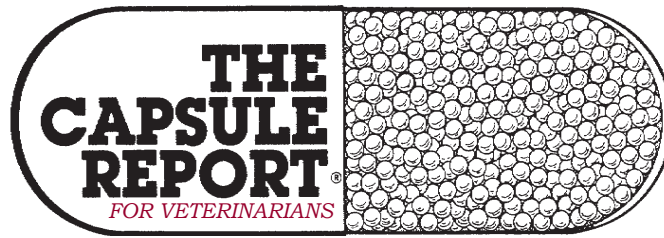


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Volume 34, Number 11

February 2016

Emetics

Effective emetics include apomorphine (0.03 mg/kg, IV or 0.04 mg/kg, IM, or conjunctivally to effect) and 3% hydrogen peroxide (1 mL/lb to maximum of 45 mL) for dogs and xylazine (0.44 mg/kg, IM) and dexmedetomidine (0.05 mg per cat, IM) for cats. Other emetics have been used including salt, syrup of ipecac, liquid dishwashing soap and powdered mustard. These are not recommended for routine use as emetics because of their questionable efficacy and the potential for significant adverse effects. Salt that is not vomited up may result in hypernatremia, causing severe neurologic derangements. Syrup of ipecac has a delay in onset of action of up to 40 minutes in dogs, and only works in about 30%-40% of cases. If not vomited up ipecac can cause myocardial depression and hypotension and therefore should be removed via gastric lavage. Liquid dish soap can cause intractable vomiting that can lead to gastritis, and powdered mustard is an ineffective emetic. Emetics work best if there is something in the stomach, so **feeding a small amount of food** prior to inducing emesis may improve the outcome.

Sharon Gwaltney-Brant, DVM, PhD, Dip
ABVT, Dip ABT
N Amer Vet Conf, 01:14

New AAHA behavior guidelines

The American Animal Hospital Association has released the new AAHA Canine and Feline Behavior Management Guidelines to offer tools for veterinary practices to assess and manage behavioral issues in dogs and cats that often lead to relinquishment and euthanasia. These behavior guidelines are likely to be among the most important and used of AAHA's guidelines because there is so little training in veterinary behavior and veterinary behavioral medicine in veterinary schools. These guidelines provide practitioners with a compendium of basic information, culled from the most recent research, that can allow them to immediately utilize new developments in this field and provide their clients with the most modern, humane guidance in the

field. The guidelines address the common behavioral problems of aggression, elimination disorders, separation anxiety, noise phobia, and cat-to-cat aggression. According to the guidelines: Behavioral conditions are progressive. Early intervention is essential to preserve quality of life for both the patient and client and to provide the best chance of treatment success. These guidelines will save lives, prevent euthanasia, and prevent relinquishment. The guidelines are available at

www.aaha.org/guidelines.

Dr. Karen Overall
JAVMA, Sep 2015

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Pre-preventive heartworm screening— necessary in cats?

Unlike dogs, heartworm-positive cats are at very low risk of developing adverse reactions from macrocyclic lactones. In fact, cats should stay on preventive, regardless of whether the test is positive or negative. Nevertheless, antibody screening enables the veterinarian to alert owners if their cats have been exposed to heartworms so that they might choose to pursue confirmation of mature infection. In addition, routine screening allows the clinician to understand the risk of heartworm exposure in his or her own practice area. **Bottom line:** because there is no approved treatment medication for HWi in cats, the only way to keep cats heartworm-free is to administer year-round prevention.

Clarke Atkins, DVM, Dip ACVIM
NAVC Clin Brf, Sep 2015

Different immunotherapy for atopy

RESPIT® is a newer form of immunotherapy developed by a veterinary dermatologist offering standardized region-specific allergen immunotherapy without skin testing (vetrespit.com). This approach is based on a small unpublished study that showed no statistical difference in results between allergen-specific and non-specific immunotherapy. This may be an **option for owners who decline allergy testing**.

Helen T. Power, DVM, Dip ACVD
HI VMA Conf, 11:13

The Capsule Report®

Opossums do pose a rabies risk

Public health and veterinary professionals have commonly taken the stance that Virginia opossums (*Didelphis virginiana*), marsupials found throughout North America, cannot get rabies. This misconception could result in failure to conduct a risk assessment following encounters with opossums, with potentially fatal consequences. Two reasons for this misconception have been proposed: that the body temperature of opossums (94°F-97°F) is too low to harbor the virus, and that opossums are unlikely to survive an attack from a rabid animal long enough to become infected. Although more typical rabies reservoirs (e.g., raccoons and bats) pose a higher risk, **opossums can become infected with rabies** virus and should be recognized as a possible source of exposure to animals and humans. Given that rabies is virtually always fatal in people after the onset of clinical signs, dismissing an exposure to an opossum could result in the loss of human life. Such exposures should be appropriately assessed for risk, as is recommended for rabies reservoir species and other mammals.

*Katherine A. Feldman, DVM et al.
JAVMA, Dec 1, 2015*

Topical chlorhexidine for pyoderma

Superficial bacterial folliculitis (typically staphylococcal pyoderma) commonly affects patients secondary to underlying disease, such as allergy or endocrine disease. With the rise of methicillin-resistant Staphylococcus spp (e.g., *S pseudintermedius* [MRSP], *S aureus* [MRSA], *S schleiferi* [MRSS]) as well as other antibiotic-resistant organisms, dermatologists are looking at treatment differently. Topical antibacterial therapy should be used in all cases; for some patients, it might be the sole therapy. Chlorhexidine is an excellent topical antibacterial for treatment of superficial pyoderma and prevention of recurrence. It is economical and involves low risk for adverse effects. The authors prescribe *daily* topical chlorhexidine as primary treatment for mild-to-moderate superficial pyoderma—without antibiotics—for 2 to 4 weeks. For preventing recurrence, chlorhexidine is used 2-3 times per week long-term. Chlorhexidine is available in shampoos, sprays, leave-on mousse, and wipes. Individual pet and owner preferences can result in selection of one form over another; for instance, daily application of 2%-4% chlorhexidine spray with weekly 2%-4% chlorhexidine shampoo baths is feasible for many clients. Wipes are useful for face or tail folds, interdigital areas, and the perineum. Topical chlorhexidine therapy can reduce or eliminate the need for systemic antibiotics.

*Douglas J. DeBoer, DVM and Elizabeth A. Layne DVM
NAVC Clin Brf, Dec 2015*

Use of outdated drugs

Healthcare providers are often asked if drugs can be used past their expiration date. Because of legal re-

strictions and liability concerns, manufacturers do not sanction such use and usually do not even comment on the safety or effectiveness of their products beyond the date on the label. Since last published in the Capsule, more data have become available. There are no published reports of human toxicity due to ingestion, injection, or topical application of a current drug formulation after its expiration date. The manufacturer's expiration date is based on the stability of the drug in the original sealed container. The date does not necessarily mean that the drug was found to be unstable after a longer period; it only means that real-time data or extrapolations from accelerated degradation studies indicate that the drug in the closed container will still be stable at that date. Storage in high heat and/or humidity can accelerate the degradation of some drug formulations. Solutions and suspensions are generally less stable than solid dosage forms. When no suitable alternative is available, **outdated drugs may be effective**. How much potency they retain varies with the drug, the lot, the preservatives (if any), and the storage conditions, especially heat and humidity; many solid dosage formulations stored under reasonable conditions in their original unopened containers retain >90% of their potency for at least 5 years after the expiration date on the label, and sometimes much longer.

Med Let, Dec 7, 2015

Rehab - cryotherapy

Cryotherapy should be used for the first 24-72 hours after surgery. It needs to be applied for 15 to 25 minutes several times a day. It can also be used after exercises later in the rehabilitation protocol. Cryotherapy penetrates deeper than heat and reduces inflammation, edema formation, muscle spasms and pain. You should always place insulation between the cold pack and skin and inspect the skin every few minutes. Commercial ice packs, frozen bags of vegetables, or a homemade ice pack of 1 part alcohol and 3 parts water can be used. Cold packs used in your hospital should be sanitized between patients to prevent nosocomial infections. It is also recommended covering incisions with vitamin A and D ointment or a triple antibiotic ointment to prevent the damp layer from potentially infecting the fresh surgical site.

*Jennifer L. Wardlaw, DVM, MS, Dip ACVS
Music City Vet Conf, 03:13*

Using diluted bleach

A 1:32 dilution (0.2% sodium hypochlorite solution) corresponds to 8 tablespoons (118 ml) of bleach to a gallon of water. CDC recommends 1:10-1:100, so 1:32 is reasonable for decontamination of home or veterinary hospital environments for MRSP. The recommendation for topical treatment of dogs with MRSP as sprays or rinses has typically been 1 ounce per 10 gallons of water. This is a 1:1,280 dilution (0.005% sodium hypochlorite solution) corresponding to 0.6 teaspoons (3 mL) of bleach to a gallon of water. This concentration

would not be effective against the isolates in this study and should be questioned as to potential efficacy. The recommendation in humans is to use 1/4 to full strength (0.1% to 0.5% sodium hypochlorite) Dakin's Solution for treating wounds 1-2 times per day. It should be noted that sodium hypochlorite bleach is commercially available in various concentrations, so dilutions may vary to arrive at the desired concentration. The concentrated Clorox Regular Bleach contains 8.25% sodium hypochlorite. Some human references recommend to not use commercial preparations for dilution with sodium hypochlorite above 5.25% or with additional ingredients. Remember that sodium hypochlorite is regulated by the EPA and it is a violation of Federal law to use these products in a manner inconsistent with its labeling.

*Kenneth W. Kwochka, DVM, Dip ACVD
HI VMA, 11:13*

Ferrets in the exam room

Take heed not to extrapolate from feline or canine medicine and surgery when examining or treating ferrets. Their husbandry needs are different from other small animals, as are their nutritional requirements. Allow ferrets to explore the exam room while you get a history, and take note that certain behaviors are quite normal. You will gain a lot of information just watching how they move. Be prepared for them to crawl up your legs—and realize that most ferrets are very friendly! Nipping is a common behavior—and not one of aggression—but one to be prepared for. Healthy ferrets will generally destroy your exam room, tipping over the trash, opening cupboards, urinating/defecating in corners—and a ferret that does not do these things usually isn't feeling well. Ferrets shouldn't be left unattended in a room that has not been properly ferret proofed. They often get themselves into trouble and can escape if not placed in a secure cage with proper cage bar spacing.

*Byron de la Navarre, DVM and Sandra M. Mitchell, DVM
Vet Pract News, 27:2*

Identifying corneal ulcers

The location, orientation and size of the stain uptake can give you an idea as to the etiology of the ulcer. This author measures the horizontal meridian first and then the vertical meridian of the corneal defect. To describe ulcer location divide the cornea up into five areas; superior nasal, superior temporal, inferior nasal, inferior temporal and central. An ulcer in the inferior nasal area may indicate a foreign body behind the third eyelid. A circular central ulcer, especially if observed in a brachiocephalic breed could indicate lagophthalmos. A linear ulcer measuring 1 x 4 mm for example and oriented perpendicular to a line drawn from the medial to lateral canthus could indicate an ulcer secondary to a distichia, ectopic cilia, or other eyelid margin abnormality.

*Bill Miller, DVM, MS, Dip ACVO
Music City Vet Conf, 03:13*

Intestinal anastomosis

Anatomic apposition of individual layers of the bowel wall (i.e., mucosa, submucosa, muscularis, and serosa) result in primary intestinal healing. This technique is superior to inverting or everting techniques because apposition of intestinal margins eliminates lumen compromise. This is the authors preferred technique for suturing all hollow viscus organs in the abdominal cavity. Suture patterns of choice include: 1) Simple interrupted apposing. This technique involves suturing all layers of the intestinal wall and tying the knots on top of the serosa to approximate cut edges. The sutures should be tied tight enough to effect a watertight seal, yet not so tight as to blanch the tissue and cause ischemia of intestinal margins. This technique is simple, fast, reliable, and does not result in lumen compromise. 2) Simple continuous apposing. This technique is similar to the simple interrupted appositional technique, however, a continuous suture pattern is used rather than an interrupted pattern. Advantages include faster anastomosis, equal suture tension over the entire anastomosis, airtight-watertight seal, and mucosal eversion is minimized. This is the authors preferred suture pattern for suturing all hollow viscus organs in the abdominal cavity.

*Howard B. Seim III, DVM, Dip ACVS
100th WI VMA Conf*

Sources of exotic meats

A diagnosis of food allergy is made using the history and physical examination and evaluating the animal's response to a hypoallergenic elimination diet trial. Serologic testing for foods is not useful and is best avoided. The diet should be composed of food substances to which the dog has not been commonly exposed. If possible, the diet should be free of additives including preservatives, colorings, and flavorings. Simply switching to another brand or form of commercial dog or cat food is not a valid test as many of the so-called "hypoallergenic" over-the-counter pet store diets have been found to be contaminated with other proteins during the manufacturing process. Dogs are preferably fed a "hypoallergenic" home-cooked diet (for example, ostrich, emu, rabbit, alligator, kangaroo, or kidney beans combined with sweet potatoes, yams, quinoa, oats or barley) for a minimum of 30 days and preferably for 8-12 weeks. Sources for these meats include: mypetgrocer.com, exoticmeats.com; for ostrich-blackwing.com; for emu- www.dinomeat.com, www.redoakfarm.com, www.heartlandemu.com, or google "emu meat." Go to balanceit.com for easy recipes with supplements to make diet balanced or raynenutrition.com for prepared limited ingredient diets and treats.

*Michele R. Rosenbaum, VMD, Dip ACVD
Music City Vet Conf, 03:13*

Ideas for urine collection

Banana split containers work better than a typical bowl does because their oblong shape and shallow depth fit better between the legs and under short dogs, and their extra length keeps your hands away from the urine stream. To make it easier for owners to catch feline urine samples at home, this clinic suggests they replace their cats' litter box with a clean box filled with unpopcorned popcorn kernels. The popcorn is similar to kitty litter in texture but doesn't absorb urine. After a cat uses this litter box, the owners can easily pour the urine into a container and then bring into the clinic for analysis.

*Laura Wiglusz, LVT et al
DVM News Mag, Jan 2016*

Managing seizures with KBr

Potassium bromide is becoming the drug of first choice for the management of epilepsy in dogs since it is the only anticonvulsant known that has no hepatic toxicity and all the adverse effects of KBr are completely reversible once the drug is discontinued. KBr controls approximately 80% of the epileptic dogs it is used to treat and is often effective in dogs that fail phenobarbital (PB) therapy. When high dose KBr and low dose PB are used together, approximately 95% of epileptic dogs can be controlled. The maintenance dosage of is 20-100 mg/kg/day (which can be divided BID to avoid GI upsets) to achieve serum concentration of 1-5 mg/ml measured just before the next dose is administered. It requires 2-3 weeks of therapy before bromide serum concentration will enter therapeutic range and close to 4 months before steady state values are approximated. If seizure control is needed more rapidly than this, a total oral **loading dose** of 400 to 600 mg/kg of potassium bromide can be given, prior to instituting the maintenance dosage schedule, **divided QID over 4-5 days**. By dividing the loading dose, excessive sedation may be avoided in case the dog is especially sensitive to the sedative effects of bromide. The loading dosage should be mixed well with food to avoid the induction of vomiting. Be sure to stress to owners that it is important to keep the salt content of the diet consistent to prevent marked serum concentration fluctuations of bromide. The most common adverse effect of bromide therapy is polyphagia, and it is recognized in about 25% of the dogs on therapy necessitating changing to a low calorie diet such as canine R/D or W/D to prevent excessive weight gain.

*Simon Platt, BVM&S, MRCVS, Dip ACVIM
Music City Vet Conf, 02:15*

Opioids myth

Myth - Morphine and other opioids cause cardiovascular and respiratory depression in animals. This is partially true, but rarely clinically relevant. Morphine and other opioids at clinically recommended doses have **minimal detrimental effects on cardiovascular function** in

animals. Even massive overdoses have minor cardiovascular effects in healthy animals. Although opioids do cause dose dependent respiratory depression, the magnitude of the depression is small and plateaus at relatively minimal respiratory depression. If substantial respiratory depression occurs it is often due to other factors contributing such as other drugs (e.g. inhalant or injectable anesthetics), concurrent disease (pulmonary disease) or head trauma in which the respiratory centers are affected. If the animal is at great risk for respiratory depression, which is clinically very rare, than constant rate infusions can be administered. The CRI minimizes peak drug concentrations while maintaining effective concentrations resulting in little to no effect on the respiratory function if appropriate doses are administered.

*Butch KuKanich, DVM, PhD, Dip ACVCP
CVC Kansas City, 08:15*

Serotonin syndrome

If an animal is symptomatic, the main concerns are seizure activity, hyperthermia, and vomiting leading to aspiration pneumonia. IV fluids are recommended for temperature regulation, cardiovascular support, and maintaining blood flow through the kidneys. Phenothiazines can be used for sedation purposes and phenobarbital can be used to control seizure activity. Cyproheptadine is a non-selective serotonin antagonist and has been found to be helpful with managing serotonin syndrome. It is generally given orally (1.1 mg/kg, PO, for dogs, 2-4 mg, PO, for cats) however if oral medications are contraindicated due to the patient's neurologic status, then it may be crushed, mixed with saline, and given rectally. It may be given as often as every 4-6 hours as needed.

*Caitlin Parsley, DVM
SoCal VMA Pulse, Jan 2016*

Cancer - end of life care

Bovine colostrum contains various immune mediators and cytokines (interleukins and interferon) that protect newborns by providing passive immunity. Bovine colostrum also contains a variety of growth factors, including insulin-like growth factors and epithelial, endothelial, fibroblast and platelet-derived growth factors and oligosaccharides that promote beneficial microflora for a healthy gut and healthy immune system. It is a great supplement for underweight patients and it may benefit end of life patients. For the diet, feed meaty (no grain/no sweet potato) canned foods from Hills, Evo, Innova, Pinnacle, California Natural. Homemade meals with meat, fish, green vegetables and Tum's for calcium are encouraged. Call the nutrition consultation at Hill's.

*Alice E. Villalobos, DVM, FNAP
100th WI VMA Conf, 2015*

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