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Switching between glargine and PZI

This author feels that choosing glargine or PZI is a matter of personal preference and experience. The author still reaches for glargine in a newly diagnosed diabetic cat because of being comfortable with it and having had good success with it. For both insulins, start at 0.25 U/kg of lean body weight, twice daily, which is usually 1 U/cat. If the cat is truly large (and not just fat), start at 2 U, twice daily. Try to do a glucose curve to identify hypoglycemia after the first dose and also encourage the owner to start checking blood glucose concentrations at home. On that first day, you do not want to see the glucose concentration go below 150 mg/dl. Because many cats undergo diabetic remission, be vigilant for hypoglycemia so that you can promptly decrease the insulin dose as necessary. The author is very cautious about increasing the insulin dose in a cat during the first month of therapy, as weight loss, dietary changes, and the management of insulin resistance will often improve insulin sensitivity dramatically. If the author had a feline patient that was receiving Vetsulin, she would start with the same dose of 0.25 U/kg of lean body weight when the switch is made to glargine or PZI.

Audrey Cook, BVM&S, MRCVS, Dip ACVIM
Vet Med, 105:6

Propofol and post surgical wound infection

One study of 863 dogs and cats with clean surgical wounds found that the use of propofol as an induction agent significantly increased the relative risk of developing a wound infection. Those patients receiving propofol had an infection rate of 13%, while those receiving other induction agents had an infection rate of 4%. Propofol increased the relative risk of wound infection by 3.8 times. The authors postulated that using a multiple dose vial for multiple patients throughout the day (or week) allows the bottle to become contaminated and bacteria are injected during induction. This bacteremia apparently is sufficient to increase the incidence of wound infection.

Marc Wosar, DVM, MSpVM, Dip ACVS
North Am Vet Conf Procd, 01:07

INSIDE THIS ISSUE

Sedating the cardiac patient

This author's concoction of choice for sedating cardiac patients, both dogs and cats, is diazepam (Valium) and butorphanol, 0.2 mg/kg of each, mixed for an IV injection (stings if given out of the vein). This mixture will precipitate briefly, then clear after rocking the syringe back and forth a couple of times. Substitute midazolam for the diazepam (0.2 mg/kg again) and give it IM for the patient that can't even sit still for an IV. If your practice is narcotic friendly, you can substitute oxymorphone (0.05-0.10 mg/kg) or hydromorphone (0.10-0.20 mg/kg) in place of the butorphanol; use the lower end dosage of the narcotic for cats. Note that this is not a potent sedative. If you give this to a fractious patient, you will likely still have a fractious patient after this medication. However it's usually just the ticket for the critically dyspneic pet or one with significant heart disease. It takes away enough stress so that you can accomplish critical procedures, but the patient will still be able to stand, walk, or go home with the client (if appropriate) right after you're done.

Donald J. Brown, DVM, PhD, Dip ACVIM
32nd New Eng Vet Alp Symp Procd

Radiation safety

Veterinary technicians should understand that by accepting their jobs, they are accepting some, albeit small, risk of harmful effects of radiation exposure for the tangible benefit of gainful employment. The veterinary hospital owner is duty-bound to instruct and provide the technician with the tools necessary to obtain radiation exposures as low as reasonable achievable. Use proper lead shielding equipment such as lead aprons and thyroid shields. Technicians hate wearing lead shielding. Lead gloves are uncomfortable, decrease dexterity and they smell awful. Nonetheless, technicians should be advised that not wearing gloves is not an option in any circumstance. Human fingers should not be present in the radiograph. Lead gloves do not provide protection from the primary X-ray beam. In other words, wearing a lead glove and putting your hand in the radiograph offers no protection at all. The lead only protects

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the hands from scatter radiation arising at the periphery of the radiographic image.

Matt Wright, DVM, Dip ACVR
Vet Pract News, 22:8

Animal law website

This website is under the auspices of the Michigan State University College of Law and offers users legal information about animals. This site includes all state veterinary practice laws in the US, more than 700 full-text cases, expert explanations and materials, information on policies, publications, briefs, and historical documents. It also offers navigation by topic, law, subject area, and species as well as a general search engine for queries relating to animal law. Anticruelty law information is listed by state, with some information for specific cities. The site specifically addresses 38 legal subjects, including the US Bald Eagle Protection Act, animal rights, US animal welfare, and veterinary malpractice. If you want to learn about this growing area of law, this is a good place to start.

Comp, 29:4

Atopic pododermatitis

Atopic pododermatitis is perhaps best treated by managing the underlying allergy (e.g., fatty acids, antihistamines, glucocorticoids, cyclosporine, hyposensitization). Avoidance from allergens may be achieved by washing the feet down with water at the end of the day to remove allergen from the surface of the skin. A topical antiinflammatory spray can be used to help reduce hyperplastic changes (e.g., Genesis spray, two times daily for one week, then once daily for one week, then once every other day until desired effect is achieved). Products such as this can be very valuable for treating "flares" of allergic pododermatitis (e.g., application once or twice daily for 1-2 days). Emphasis should be placed on minimizing the use of topical steroids if they are to be used long term as an adjunctive treatment. 0.1% tacrolimus (Protopic) is a reasonably effective, nonsteroidal product that may significantly reduce pedal inflammation and irritation. It is initiated as a twice daily treatment.

Rod A.W. Rosychuk, DVM, Dip ACVIM
74th AAHA Conf Procd

Vomiting from acute kidney disease

Protracted vomiting may require antiemetic therapy and restriction of oral intake. Metoclopramide can be administered as an IV CRI of 1-2 mg/kg/day, IV or 0.1-0.5 mg/kg, IM, q8h. Alternatively, phenothiazine-derivative antiemetics such as prochlorperazine (0.1-0.5 mg/kg, IM, q6-12h) or chlorpromazine (0.5 mg/kg, IM, q6-8h) can be used to suppress central vomiting centers. Phenothiazines may lead to hypotension and blood pressure should therefore be monitored when using these drugs. Dolasetron (0.5-1.0 mg/kg, IV, q24h), ondansetron (0.1-0.5 mg/kg, IV, q12-24h), or maropitant (1 mg/kg, SQ, if well hydrated or 2 mg/kg, PO, for 5 days) are alternative centrally acting antiemetics that are also effective for the control of nausea and vomiting.

Deborah Silverstein, DVM, Dip ACVECC
Tex A&M CVM Emerg Med Procd, 10:10

Coprophagia

Some dogs consume their own feces and others eat the feces of other dogs or other species. There are different theories as to why this behavior occurs, including exploratory behavior, establishing intestinal microflora or compensating for a nutritional deficiency. Young dogs are most likely to engage in coprophagia but it can be seen at any age. Puppies will often outgrow the behavior without specific intervention. The behavior is inherently self-rewarding and therefore may become a habit that is difficult to eradicate. A careful history should be collected, focusing on past GI disturbances. A medical examination should be performed to rule out any underlying nutritional deficiencies/diseases. Laboratory evaluation should include fecal analysis, CBC, chemistry panel and serum folate, cobalamin, and trypsin-like immunoreactivity. Consider changing diet to alter the characteristics of the stool. Addition of monosodium glutamate (Adolph's meat tenderizer, Forbid) to the food can make the feces less attractive. Denying access to feces is usually the most successful treatment plan.

Jacqueline C. Neilson, DVM, Dip ACVB
West Vet Conf Procd, 02:10

Checking for nerve damage from a fracture

Check for nerve damage. Sharp edges of broken bones can cut the nerves. It is not life-threatening to the dog, but it is not too cool to say, I spent $2,000 of your money, and we fixed the fracture, but the dog can't walk because the sciatic nerve was cut and your dog can't feel its leg. Use a hemostat and pinch the medial toe, which checks the femoral nerve, and pinch the lateral toe, which checks the sciatic nerve. The dog should turn and look, snap at you, whimper or convey in some way that the message traveled from the paw to the brain. Another nerve that is often injured during trauma is the nerve to the urinary bladder. To check for this, check the anal tone. If anal tone is normal, then the nerve going to the bladder is almost certainly normal. To do that, take the animal's temperature. When you put the thermometer in, it should wink at you.

Ron D. Montgomery, DVM, MS, Dip ACVS
Vet For, 24:9

Diabetes guidelines from AAHA

The America Animal Hospital Association has released guidelines for the management of diabetes mellitus in cats and dogs. The introduction states, in part, "Treatment of DM is a combination of art and science, due in part to the many factors that affect the diabetic state and the animal's response. Each animal needs individualized, frequent reassessment, and treatment

may be modified based on response." The first section of the guidelines covers diagnostic criteria and initial assessment for diabetes. The bulk of the document addresses treatment for diabetes, with details about initial and ongoing treatment and monitoring of cats and dogs. Other sections provide additional information about blood glucose concentration, troubleshooting, and client education. The recommendations made in this manuscript are intended to guide medical decisions and treatment choices, with the recognition that within each animal, variations in response will exist and no two cases are alike. The guidelines are available online at www.aahanet.org/resources/guidclines.aspx.

JAVMA, 236:12

Surgery in the ferret

Ferrets are very similar to cats when it comes to surgery and the techniques will generally be the same. A few points to consider include the likelihood that you will find a large spleen on exploratory; this is normal in ferrets and is usually an incidental finding if the organ is homogenous and grossly normal. Also, ferrets are very sensitive to the effects of butorphanol; use very low doses or consider alternative options for perioperative pain control. Lastly, while ferrets are less likely to chew on sutures than rodents and rabbits, this author still avoids skin sutures, preferring subcuticular closure and tissue glue as needed.

Christopher S. Hanley, DVM, Dip ACZM
WEZAM Conf Procd, 03:07

A nutritional website

www.BalanceIt.com is a great canine and feline nutrition site created by board-certified veterinary nutritionists and sanctioned by the American Academy of Veterinary Nutrition and American College of Veterinary Nutrition. It has two major sections: one for veterinary professionals, and one for pet owners. The veterinary site has access to a database of more than 10,000 foods and can instantly formulate homemade diets and create feeding instructions for commercial foods to give to clients. This software accounts for the signalment, weight, and concurrent diseases of each patient. The site also has a calorie content database searcher, a guaranteed analysis converter, a food intake calculator, and an abridged diet evaluator, all of which can be very helpful when trying to quickly determine exactly what a pet is being fed.

Comp, 29:3

Use of the dental vaccine

This author's recommendation is to use the vaccine only in conjunction with standard periodontal therapy (routine professional prophylaxis and consistent home care). Currently, it is felt that it is most appropriate for the product to be used in patients with an increased risk for periodontal disease, which is typically considered to be dogs under 15 pounds and Greyhounds. If clinicians elect to use the vaccine, the author recommends that the first injection be given at approximately 9 months of age and the follow-up injection 3 weeks later. For older patients that have periodontal disease and have already received dental therapy, it is recommend administering the initial injection at the 2-week recheck appointment and the follow-up 3 weeks later. The author revaccinates exceedingly high-risk dogs and currently affected patients every 6 months; however, for lower risk dogs annual vaccination may be sufficient.

Brook A. Niemiec, DVM, Dip AVDC. Fel AVD
NAVC Clin Brf, 8:3

Micro samples vs. vacuum tubes

There is a paucity of studies regarding the incidence of iatrogenic anemia in veterinary patients; however, common sense suggests that minimizing diagnostic sample volumes in critically ill dogs and cats is prudent. In this study, no clinically relevant differences were detected for any biochemical variables in samples obtained from healthy cats and dogs by use of standard lithium heparin vacuum collection tubes and lithium heparin microsample collection tubes. On the basis of the results of this study, microsample and standard blood collection tubes may be used interchangeably to obtain samples from healthy dogs and cats without risk of misinterpreting differences in results, providing tubes are appropriately filled and properly handled.

Jacqueline C. Whittemore, DVM and Bente Flatland, DVM
JAVMA, 237:3

Destroying the raccoon roundworm

Baylisascaris procyonis is a common roundworm parasite of raccoons. This parasite is recognized as an important cause of larval migrans in humans, and infection may result in death or severe neurologic disease. The only way to prevent contamination of an area with raccoon feces and *B procyonis* is to restrict raccoon activity in the area. If raccoons defecate in an area potentially used by people, feces should be removed immediately because it requires about 10 days for the eggs to develop into the infective stage. Normal household cleaners (including chlorine bleach) are not effective for killing the eggs; the only proven methods to decontaminate an area are to burn it, treat it with steam, or douse the area with boiling water. Pet food should be secured from raccoon access, and garbage should be stored in proper containers. Additionally, raccoon habitat, such as hollow trees, should be removed from the property, and access to attics and crawl-spaces under the house or deck should be prevented. Numerous outbreaks of Baylisascaris larval migrans have been reported in animals in rehabilitation centers that were housed in cages or pens that previously contained infected raccoons.

Michael Yabsley
SCWDS Briefs, Oct 2010

Post surgical GDV

Many dogs following GDV surgery suffer from decreased or absent gastric motility. This may prolong anorexia and cause accumulation of gastric secretions resulting in nausea and regurgitation. The use of metoclopramide (1-2 mg/kg/day) or low dose erythromycin (0.5-1 mg/kg, q8h) may improve motility. Dogs who have suffered mucosal damage may benefit from a gastroprotectant such as sucralfate (1 g, q8h) or a proton pump inhibitor (omeprazole at 1 mg/kg, q24h).

Medora Pashmakova, DVM
Tex A&M CVM Emerg Med Procd, 10:10

Schirmer tear test procedure

The procedure for a STT is relatively straightforward. Use a commercial STT since these are standardized. Fold the strip at the notch, place the folded end of the strip inside and under the lower eyelid about 2- 3 mm nasal to the lateral canthus, and leave it in the eye for one minute or until 15 mm of wetting is achieved. An alternative for measuring tears is a phenol red thread test. This test uses a small thread impregnated with dye and is excellent for patients with very small eyes such as exotics. In this test, the thread is held with a small forceps and placed in the lateral one-third of the lower palpebral margin. It is left in place for 15 seconds. In dogs, the reference range for normal tear production is 25-43 mm/15 seconds.

Juliet R. Gionfriddo, DVM, MS, Dip ACVO
Vet Med, 105:10

Pemphigus foliaceus, treatment

Systemic immunosuppression with glucocorticoids provides the most rapid clinical response in dogs and cats with pemphigus foliaceus. Prednisone is initially started at 2 mg/kg/day, orally in dogs, and prednisolone is initially started at 2-4 mg/kg/day, orally in cats. The dose of prednisone or prednisolone may then be increased if no improvement in clinical signs is evident within 1-2 weeks. Cats may respond better to glucocorticoids other than prednisone because of the lower bioavailability of prednisone compared with other glucocorticoids in cats. If glucocorticoids of different potencies are used, equivalent doses should be calculated. In cats, triamcinolone can be initially dosed at 0.6-2 mg/kg/day, orally, and dexamethasone can be initially dosed at 1.5 mg/cat, orally. The glucocorticoid dose should be selected based on the clinical signs. Dogs and cats with mild pemphigus foliaceus lesions may respond to lower doses of glucocorticoids.

Kathy C. Tater, DVM and Thierry Olivry, DrVet
Vet Med, 105:1

Sago palm toxicity

Ingestion of any part of the plant to include leaves, bark and seeds/nuts can cause toxicity. The mechanism of action is not understood, thus there is no antidote. Clinical signs of toxicity include vomiting, hemorrhagic diarrhea, icterus, stupor, coma, seizures and death. Known exposure without clinical signs does not mean that the patient will not develop acute liver failure. Baseline blood work, with a focus on liver values, serum color and liver function should be obtained. Serial evaluation of blood work is necessary to monitor trends of change. If the SAP, ALT and total bilirubin are on the rise, while albumin is falling, then liver failure is emerging. Do not mistake falling liver enzyme values as a good prognostic indicator, as these will fall with cirrhosis and end stage liver failure, due to loss of functional hepatic mass. In these cases, total bilirubin will typically rise, plateau and will not fall or it keeps rising. Treatment of sago palm toxicity is aggressive supportive care to promote liver health and prevent progression of acute liver failure. Sago palm toxicity is uniformly fatal if acute liver failure develops. If clinical signs or blood work abnormalities do not acutely develop, then the patient has luckily escaped acute liver failure. If the patient survives the acute toxicity, remember to advise the owner that signs of chronic liver failure can still occur 4-6 months after sago palm ingestion! Prevention of ingestion is the key. Be certain that pets are supervised around these deadly plants or better yet, have landscapers remove them from their yards.

Colleen Willmus-Cook, DVM, Dip ACVECC
Tex A&M CVM Emerg Med Procd, 10:10

Heat and OA

Heat is widely considered to positively impact painful osteoarthritis patients. The use of heat is two-fold. Low-level heat (elevation of tissue temperature by 1º C to 2º C) relieves pain through the stimulation of non-nociceptive A_a sensory fibers, as well as the vasodilation and normalization of blood flow. This low-level tissue relaxation may be achieved by keeping osteoarthritic patients in relatively dry and warm temperatures throughout the day (e.g., sleeping in heated indoor environments or providing heated beds). More intense heat (elevation of tissue temperature by 3º C to 4º C) is used to increase the effectiveness of stretching while minimizing tissue damage. Intense heating is most often applied by a healthcare professional who uses a hot pack that is heated by a hydrocollator or microwave oven. A dry towel is generally placed between the hot pack and the skin, and heat is generally applied for 15-20 minutes. Caution must be used when placing a hot pack on a dog because burns can occur. Initially, the packs may not appear excessively hot to the touch, but they can induce thermal damage after several minutes of contact. Therefore, it's important to check for excessive redness, skin swelling, or blistering every few minutes during intense-heat therapy.

Denis Marcellin-Little, DEDV, Dip ACVS
Novartis OA Symp Procd 04-07