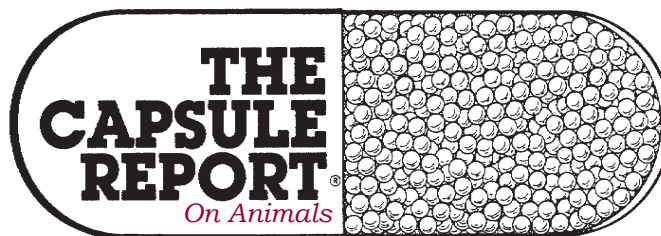


A digest of practical and clinically relevant information from this month's journals and proceedings



Small Animal/Exotic Edition

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How to increase office visits

The recent Bayer Veterinary Care Usage Study suggested that offering wellness plans could increase the number of veterinary visits by cats and dogs. Banfield Pet Hospital is an example of a practice group that already promotes wellness plans. Banfield's hundreds of clinics offer Optimum Wellness Plans, annual packages of preventive care with monthly payments. Currently, about 46 percent of Banfield's feline and canine patients are on a wellness plan. Among Banfield's patients not on wellness plans, cats averaged 1.42 visits in 2010, and dogs averaged 1.43 visits. Among Banfield's patients on wellness plans, cats averaged 3.67 visits in 2010, and dogs averaged 2.86 visits. Twice-annual examinations are key to ensuring that pets receive proper preventive care. Regular visits also assist in building long-lasting relationships with clients. The relationship piece is an important part of preventive care—the better the relationship with a client, the more likely clients are to trust doctor recommendations. It has also been found that wellness plan clients not only come in twice as often, they have better compliance with preventive care recommendations. For example, the author's data show that 45% of wellness plan clients have their pets on heartworm preventive, while only 20% of non-wellness plan clients do.

*Dr. Jeffrey S. Klausner
JAVMA, Sep 15, 2011*

Cyclosporine protocol for perianal fistula

The most successful medical therapy used recently, and the authors' first choice, is cyclosporine. One study showed a 96% reduction in perianal fistulas with this medication; 69% of dogs had complete resolution, 27% had partial resolution, and only 4% showed no improvement. However, more than one-third of dogs had recurrence of the lesions within 2-3 months. This study treated with cyclosporine only until 2 weeks past clinical resolution or until no further improvement was apparent. Several studies report resolution of clinical signs in up to 100% of dogs and clinical remission in up to 93% of dogs. Other studies have shown that continued main-

tenance therapy of cyclosporine for at least 3 months after clinical resolution reduces the rate of recurrence from 50% to 14% over a subsequent 12-month follow-up period. For these reasons, the authors recommend long-term maintenance therapy instead of abruptly discontinuing cyclosporine. When cyclosporine is being used as the sole therapy, the initial total daily dose is 4-8 mg/kg, administered until lesions are no longer present. To prevent recurrence, the authors recommend transitioning to maintenance therapy. First, the cyclosporine dosage is reduced from 4 mg/kg, BID, 7 d/wk to 4 mg/kg, BID, 5 d/wk (i.e., skipping Wednesday and Sunday). At the first 1-month follow-up examination, if the patient is doing well, the dosage is further reduced to 4 mg/kg, BID, every other day for a total of 4 weeks. At the next follow-up, the dosage is to be reduced to twice weekly for 4 weeks, then to once weekly for 4 weeks. If the lesions had not recurred after 4 months, the cyclosporine would be discontinued.

*Jason Pieper, DVM and Lindsay McKay,
DVM, Dip ACVD
Comp, Sep 2011*

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An oral nutraceutical for cataracts

Ocu-GLO Rx is an oral nutraceutical containing a combination of 12 safe (and effective in generally supporting and protecting ocular health and normal function, boosting overall immune health, and scavenging destructive free radicals) antioxidant ingredients and formulated specifically for dogs. Considered a vision supplement, it is probably most useful in potentially delaying progression of retinal disease (progressive retinal atrophy (PRA) and other degenerative diseases, maybe sudden acquired retinal degeneration syndrome (SARDS) and immune-mediated retinopathies, etc) and cataracts that are secondary to such retinal disease (toxic cataracts) or prior to formation/early diabetic cataracts. It will not reduce existing opacities but depending on cause, might delay progression of such, and has possible utility in decreasing post-cataract surgery capsular scarring/fibrosis opacification. Finally, Ocu-GLO Rx may also benefit (and it is certainly unlikely to harm,

The Capsule Report.

though it is expensive) other ocular disease conditions such as uveitis, glaucoma, and Golden Retriever uveitis.

*Kathryn Diehl, DVM, MS, Dip ACVO
WI VMA Conf Procd, 10:11*

Cause of feline tooth resorption

Although causes have not been determined for tooth resorption in general, one study suggests that cats with tooth resorption have significantly higher serum concentrations of 25-hydroxyvitamin D than cats do without tooth resorption. These researchers also found that 41 percent of canned cat foods have in excess of 30 times the vitamin D requirements of cats. Feeding diets that meet but don't exceed the 250 IU/kg dry weight equivalent may prove to be a key to preventing tooth resorption. It's also generally thought that Type 1 resorption is of inflammatory origin, so good oral hygiene may be key to preventing this form of resorption.

*Brett Beckman, DVM, Dip ACVD
DVM News Mag, Dec 2011*

Topical volumes for otitis

The volume of medication applied into the ear during treatment appears to be *critical*. This author recommends using dose syringes to accurately measure otic medications. Failure to apply sufficient quantities to penetrate to these areas seems to be a major cause of treatment failure. Volumes used to achieve adequate penetration down the canal are based on pilot studies performed by the author. Keep in mind that higher volumes of otic medication may increase the likelihood of absorption of otic medications, especially glucocorticoids. It is important to understand that there may be systemic side effects as more potent glucocorticoids are used. Dose (volume) recommendations: Small dogs (<10 kg)-0.4-0.5 ml; Medium dogs (10-20 kg)-0.5-0.7 ml; Large dogs (>20 kg)-1.0 ml.

*James O. Noxon, DVM, Dip ACVIM
120th SD VMA Conf Procd, 2011*

Precautions after chemotherapy

When administering chemotherapy, a complete blood count including a platelet count should be collected at the expected neutrophil nadir, usually one week after administration. The absolute neutrophil count (not the percentage, or the total leukocyte count) should be evaluated. Although many animals have a low neutrophil count without clinical signs, a count of less than 1000/ μL is sufficient reason to reduce all subsequent dosages of that myelosuppressive drug. A dosage reduction of 25% is a good rule of thumb. In addition, a CBC should be evaluated immediately prior to each treatment. If the neutrophil count is less than 3000/ μL at the time myelosuppressive chemotherapy is due, it is best to delay administration by one week or until the count is more

than 3000/ μL . Owners should be instructed in the use of a rectal thermometer and take the pet's temperature twice a day in the period around the neutrophil nadir. A fever, or any other sign of sepsis should be treated as an emergency and the veterinarian should provide systemic support (intravenous fluids) as well as broad-spectrum antibiotics (enrofloxacin is a good option for dogs). Thrombocytopenia rarely causes clinical signs, however at counts of less than $50 \times 10^9/\text{L}$, the risk of bleeding increases and the veterinarian should be alert to petechiation, ecchymoses or mucosal bleeding. Myelosuppressive chemotherapy should not be administered if the platelet count is less than 100,000/ μL .

*Angela E. Frimberger, VMD Antony Moore, MVSc
25th ACVIM For Procd*

Preventing incubation problems

Several problems are commonly encountered with in-house incubation of fungal cultures. These include dehydration of plates; too cold an ambient temperature, which results in poor sporulation; and contamination of plates with media mites. Problems with dehydration can be minimized by keeping plates in an airtight container. Placing individual plates in a self-sealing sandwich bag can help solve this common problem and also prevent and/or contain media mite infestations. Media mites are microscopic mites associated with food or free-living in the environment. Possible sources of contamination include the animal itself, food sources in the clinic, and environmental debris. The source is often not identified. In the author's laboratory, media mite infestations are commonly associated with cultures from outdoor animals or large animals. One telltale sign is a serpiginous line of red on the fungal culture medium. It is widely recommended that cultures be incubated at "room temperature," but room temperature varies among clinics and seasonally. Ideally, incubation temperature should remain at 75°F-80°F. A small, inexpensive digital fish tank thermometer is a good tool for monitoring the temperature. In the author's laboratory, the thermometer is left in the original packaging for easy cleaning, but another option is to keep the thermometer in a plastic bag to prevent contamination.

*Karen A. Moriello, DVM, Dip ACVD
NAVC Clin Brf, 5:10*

Management of anorexia

Addressing food service can be quite important. Attempts to not "poke" or restrain a patient every time the cage or run door is opened should be made. The practice of "poking" or restraining can elicit fear in the patient and is likely to reduce the chance that a patient will eat. At the same time, the actual food server may be significant. It has been the experience of this author that the likelihood that patients will eat from a server increases in direct proportion to the time that they have spent or spend with the server in a non-stressed situation. Thus, the following order for preferred servers is ideal for feeding success: (1) client, (2) technician (assuming they are not the main pocker/restrainer), and (3) kennel person. Alternately, kennel personnel should be

favored over technical staff if the former are the most frequently encountered human that is providing comfort. There is one caveat to client feeding. This author is reluctant to have a client feed a pet if they are basing life and death decisions on whether a patient eats or not. This creates a very stressful environment for all involved and should be avoided. Thus, the first step in attempting to get an anorexic patient to eat does not involve food but rather involves creating an environment that will only enhance the likelihood that a patient will eat when offered a highly palatable food.

*Sean J. Delaney, DVM, MS, Dip ACVN
13th VECCS Conf Procd*

Testing for brucellosis

Because brucellosis is a zoonotic disease, it is important that personnel working in the kennel use precautions to avoid direct contact with potentially infected materials. In addition, pregnant women, children, and immunocompromised people should not be exposed to these dogs. Following confirmation of brucellosis in a kennel, all dogs in the kennel should be serologically tested for *B canis*. Dogs that have positive results for brucellosis should be euthanized. Serologic testing should continue monthly until all dogs have negative results for a minimum of 3 consecutive months. Because newly infected dogs and, hence, new positive results can arise during the screening process, monthly testing may need to continue for 7 or 8 months until all dogs have negative test results for 3 consecutive months. Initially, dogs should be screened by use of the RSAT. The RSAT is a sensitive test that is easy to perform. However, it may take 3 or 4 weeks after infection before antibodies reach detectable concentrations, and false-negative results have been reported for up to 8 to 12 weeks after infection. Thus, dogs should be tested once a month and have 3 consecutive months with negative results on the RSAT before they can be considered free of infection.

*Myliissa S.D. Marley, DVM and Patricia E. Rynders, DVM
JAVMA, 231:6*

Hypoglycemia in the neonate

Neonates are prone to hypoglycemia due to inefficient hepatic gluconeogenesis, decreased glycogen stores, and an immature glucose feedback mechanism. Anorexia, vomiting, diarrhea, dehydration, and infection may all result in neonatal hypoglycemia. Because the neonatal brain and heart are dependent on glucose and carbohydrate metabolism (respectively) for energy, permanent brain injury may result from hypoglycemia. This differs from adults, as the myocardium depends on long-chain fatty acids as a substrate. Early signs of hypoglycemia may include lethargy, decreased suckle, crying, and a limp body, and should be treated immediately. While the use of Karo syrup has not been shown to provide an immediate beneficial response in adult animals, it may still have some benefit in neonates. This also provides an emergency avenue for the client at home. Ideally, IV dextrose boluses should be used (1/4-1/2 g/kg or 0.5-1.5 ml/kg, IV of 50%

dextrose, diluted 1:1-1:2) preferentially over oral dextrose. Isotonic fluids supplemented with 2.5%-5% dextrose as a CRI can also be used; however, caution should be used to prevent over-supplementation as prolonged hyperglycemia can result in worsening of dehydration via osmotic diuresis (due to puppies having insulin insensitivity).

*Justine A. Lee, DVM, Dip ACVECC
13th VECCS Conf Procd*

Zoonosis of leptospirosis

Most human cases of leptospirosis in the US result from recreational water activities. The incidence of transmission from pet contact is low; however, while the risks of zoonotic exposure require further study, appropriate handling of these patients is warranted. Pregnant or immunocompromised individuals should avoid contact with patients suspected of having leptospirosis. Antimicrobial therapy may help lessen zoonotic risk by decreasing the amount of organisms shed in the urine. Movement of these patients around the hospital should be kept to a minimum, but because dog-to-dog transmission is rare and these patients typically require more intensive monitoring, the panel does not feel they need to be kept in isolation. Disposable gowns, gloves, facemasks, and protective eyewear should be worn when cages are cleaned or infected urine is handled. Because of the risk of aerosolization of infective organisms, pressure washing of runs should be avoided. Patients should be allowed to urinate in a restricted area that can be easily disinfected, and disposable bedding should be placed in biohazard bags. Other bedding can be laundered normally to inactivate leptospires. Urine collected from infected dogs—such as those with indwelling urinary catheters—should be disinfected before disposal. A 1:1 combination with 10% bleach solution is effective, as are iodine-based disinfectants, quaternary ammonium solutions, or accelerated hydrogen peroxide.

*Consensus Statement, ACVIM
Vet Med, 106:4*

Swaged-on needles

With the advances that have been made in needles and suture materials, this author doesn't believe there is ever any indication for using anything but a swaged-on needle. Silk and chromic gut should be considered obsolete. The size of the suture material for intestinal surgery in dogs and cats, regardless of size, should be limited to 3/0 or 4/0. Acceptable needles include taper-cut, reverse-cutting or taper point. The author prefers the RB-1 needle, which is available on most sutures. Sutures should always incorporate the submucosa layer and to ensure this always happens, contact with the lumen is necessary. Any attempt to prevent going into the lumen may compromise the procedure because the submucosa

may not be engaged. This is a serious technical error, which may lead to dehiscence of the bowel repair.

*Ronald M. Bright, DVM, MS, Dip ACVS
N Amer Vet Conf Procd, Vol 21*

Analgesia in the cat

In feline patients with chronic pain refractory to tramadol or buprenorphine, gabapentin or amantadine hydrochloride are options. The starting dose this author uses for gabapentin in cats is 3 mg/kg, PO, once daily, but the dose may be increased to 5-10 mg/kg, BID if needed. The oral solution of gabapentin is avoided because this preparation contains xylitol. Amantadine is an antiviral drug that has analgesic properties because of its ability to bind the N-methyl-D-aspartate (NMDA) receptor. The dose for amantadine in cats is 3 mg/kg, PO, once daily. Experience with amantadine is limited, and toxicoses have been reported in people with relatively small overdoses. For these reasons, the author would only use amantadine in situations in which all other pain control therapies have failed. Both gabapentin and amantadine may provide insufficient pain control to be used as sole therapies and should be used in addition to other pain control drugs.

*Laura J. Smallwood, DVM, Dip ACVIM
Vet Med, 106:7*

Inducing estrus in an anestrus bitch

It should first be ascertained whether or not the bitch has ever had a normal heat cycle. If the history is unavailable, physical examination may provide some clues. A complete history including disease, drug administration and relatives with reproductive disorders should be obtained. If the bitch is less than 2 years of age, the author recommends waiting until 2 years of age for further work-up. If she is over 2 years of age and has never displayed signs of a heat cycle, begin with a complete blood and urine analysis including a thyroid profile. Measurement of serum progesterone may provide evidence of a previously missed or silent heat. If there is any evidence on physical examination of abnormalities of the reproductive tract karyotyping may be indicated. Surgical exploratory and complete evaluation of uterus and the ovaries may be performed at this time or delayed until all other recommendations have been attempted. To completely rule out silent heats, weekly vaginal cytology and/or monthly progesterone measurement is indicated. Housing the bitch with an intact male may demonstrate mounting or interest during a silent heat. Housing a bitch with estrual females or providing blankets or towels that an estrual bitch has been crated with may provide pheromone influence (dormitory effect). This will induce an estrous cycle in some bitches.

*Kit Kampschmidt, DVM
SW Vet Symp Procd, 09:09*

Diet for rabbits

The dietary information for rabbits can vary greatly and may affect diagnosis and treatment. Many rabbit owners are unaware of the nutritional recom-

mendations for their rabbit and may be feeding inappropriate food items, excessive amounts of pellets, or inadequate amounts of hay. Owners may be feeding alfalfa hay or alfalfa pellets rather than the recommended grass hay. The House Rabbit Society (www.rabbit.org) provides some of the best client information about appropriate diets for nonreproductive pet rabbits. Rabbits require large amounts of indigestible fiber in their diet. Fiber stimulates cecal-colic motility, and can be protective against enteritis. Excessive amounts of carbohydrates such as cereals or fruits can slow motility and potentiate cecal impaction. Simple carbohydrates can also have a negative impact on gut fermentation, leading to excess production of gas. Health problems associated with rabbits fed an inappropriate diet are obesity, chronic intermittent soft stools, and episodes of anorexia, often associated with alterations in gastrointestinal motility.

*Joanne Paul-Murphy, DVM, Dip ACZM
Vet Clin N Amer, Exotics, 10:2*

Metastatic tumors to the digits of cats

Many different malignant cancers can metastasize to the skin. However, there is an interesting and distinct syndrome in which asymptomatic bronchogenic or squamous cell carcinomas of the lung may metastasize to one or more digits. Symptoms are typically seen in older cats. Ulcerative, nodular swellings may be seen on one or more digits of one or more paws in affected cats. Clinical lameness may be evident, but cats are otherwise normal. Histopathology of the affected digit is usually diagnostic for the neoplasia, but the author has had cases where non-specific, inflammation was present. Thoracic films will show a primary lung mass. Prognosis is poor.

*Randall C. Thomas, DVM, Dip ACVD
MI Vet Conf Procd, 01:11*

Following up on otitis cases

Many veterinarians don't put a strong emphasis on follow-up. The dog may stop shaking its head, may not have an exudate, and may no longer have an odor coming from its ears but can still have a ruptured eardrum. The ears can have proliferative changes even if the dog is acting better clinically, but the owner stops treatment because the dog seems clinically improved. They stop cleaning, and the ear is eventually going to flare up again—not necessarily because of the primary disease but because of what was left behind. The author tries to strongly emphasize to owners that they need to come back to make sure the dog's ear is staying clean.

*Craig E. Griffin, DVM, Dip ACVD
Clin For, Aug 2011*