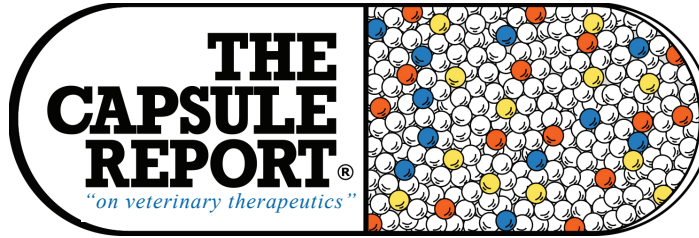


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Volume 37 Number 12

March 2019

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### Coconut oil, good or bad?

This clinician often has clients ask if they can use coconut oil as their pet's fat source. The answer is no because it lacks essential fatty acids like omega-3 and omega-6 fatty acids. And while the addition of coconut oil to a pet's diet has been anecdotally linked to all sorts of health benefits (including improved cognitive function and reduced joint inflammation), the author states that because there haven't been any studies evaluating the benefits of coconut oil in dogs or cats, we simply don't have the scientific evidence to support these claims. The same applies to using coconut oil to control seizures. Although coconut oil is high in medium-chain triglycerides (MCTs), which have recently received attention as a potential treatment for dogs with seizure disorders, the MCTs found in coconut oil differ from those used in the study. The author wouldn't say, you can just give coconut oil and that may help with seizures. We just don't know. In the meantime, this might require some flexibility with the client who's absolutely certain that his dog

needs coconut oil in its diet. When asked what she should tell such clients, go with a teaspoon a day. As long as you don't induce pancreatitis, a small amount should be fine.

*Angela Witzel Rollins, DVM, PhD, DACVN  
Vetted, Jan 2019*

### Anesthetizing geriatric dogs

One of the most commonly made mistakes when anesthetizing older patients is to depend primarily on inhalant agents and avoid premedicant agents in the misunderstanding that inhalant agents are somehow "safer." Sedation is recommended to decrease anxiety and fear that lead to increased catecholamine release which predisposes the animal to cardiac arrhythmias, peripheral vasoconstriction, increased cardiac work and decreased tissue perfusion. **Acepromazine is not contraindicated in geriatric patients** although dose requirements (on an mg/kg basis) may be decreased. Acepromazine is an anti-emetic and anti-arrhythmic but one of its most important properties is its anesthetic sparing effect. Acepromazine appears to protect renal function, at least in normal dogs despite a decrease in blood pressure. Acepromazine combined with butorphanol provided excellent sedation for dogs undergoing nuclear scintigraphy procedures (renal) and glomerular filtration rate (GFR) was no different after sedation compared to measurements obtained from the same dogs without sedation despite a decrease in systolic, diastolic and mean blood pressure. In the same study, diazepam and ketamine resulted in significant increases in heart rate and blood pressure and resulted in a lower GFR compared to the acepromazine + butorphanol combination. Preserving renal blood flow and GFR is especially important in older patients who may have decreased renal reserve or are receiving NSAIDs medication for acute or chronic pain.

*Sheilah Robertson, BVMS, PhD, DACVAA, DECVAA, DACAW  
VMX, Feb 2018*

### Behavior myth

#### Psychoactive medications should be a last resort.

The prevailing public sentiment is that psychoactive medications should only be used as a "last resort." But would you take this approach with an antibiotic or pain control? The goal of most psychoactive medication usage is to provide anti-anxiety effects. And although the use of these drugs should not be taken lightly, early intervention with all behavioral therapies including medications, can limit damage and improve success. Most of us would not

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hesitate to institute pain medications or antibiotics early in the treatment of injury or disease, yet many of the same practitioners wouldn't consider psychoactive medications until the problem is at a severe stage. Mental health should be considered part of overall health. You can decrease your clients' fears that commitment to start medication is somehow a lifelong commitment to keep the patient on medication for the rest of that animal's life.

*Julia Albright, MA, DVM, DACVB  
DVM News Magazine, Jan 2019*

## Diagnosing congestive heart failure (CHF)

Heart failure is a clinical syndrome where, by definition, clinical signs are present. In other words, a diagnosis of CHF in a eupneic dog with a sleeping or calmly resting respiratory rate <30 breaths/min should be considered nearly impossible, regardless of the radiographic findings. Secondly, dogs diagnosed with CHF secondary to myxomatous mitral valve disease MMVD should, with very rare exception (i.e., ruptured chordae tendineae), have at least moderate cardiomegaly present on 2 orthogonal views. In the author's opinion, it is common to diagnose "cardiomegaly" on the lateral projection in small breeds where MMVD is common (Shi Tzu, Dachshund, Yorkie, Pomeranian, Chihuahua) but this should always be corroborated with the DV/VD projection. Dogs with suspected CHF secondary to MMVD should have a loud (grade 3 or louder) left-sided systolic murmur. It should be considered very uncommon to encounter a dog in CHF secondary to MMVD without a loud left apical systolic murmur. For example, CHF secondary to MMVD should be considered unlikely in a coughing dog with suspected cardiomegaly on radiographs and absent or very soft left-sided murmur. A diagnosis of chronic bronchitis or tracheobronchomalacia should be considered more likely.

*Lance C. Visser, DVM, MS, DACVIM  
24<sup>th</sup> Int Veterinary Emergency Critical Care Soc Conf, 9:18*

## Proteinuria

Oral omega-3 supplementation may be of benefit to dogs with proteinuria. Omega-3 fatty acid supplementation has a **renoprotective effect** in dogs with renal failure and aids in reducing systemic hypertension. EPA content should be approximately 40 mg/kg per day.

*G.P. Oswald, DVM, DACVIM  
88<sup>th</sup> FL VMA Conf, 04:17*

## Wood glue ingestion

Although the active ingredient found in many wood glues is non-toxic, it has the incredible capacity to rapidly expand, foam, and cure, forming a "cyano-bezoar." The formed bezoar is surprisingly bigger than the amount ingested and often forms a perfect mold of the stomach and attaching portions of the esophagus and intestines. **Emesis is completely contraindicated** due to the speed at which formation occurs and the resulting size. Radiographs

should always be obtained first and typically surgery is required to remove the dried glue. Prognosis is usually good with surgery but gastric irritation and ulceration is a possible co-morbidity.

*Marc Seitz, DVM, DABVP  
Music City Vet Conf, 02:17*

## Monitoring hypoglycemic agent therapy in cats

It appears that methods of assessing *long-term* glycemic control are better indicators of response to therapy with oral hypoglycemics than are spot glucose determinations or blood glucose curves. In humans, the response to treatment is measured by a decrease in hemoglobin A1C with most oral hypoglycemic agents yielding a modest decrease of about 1%-2%. The author prefers to monitor the resolution of clinical signs of diabetes mellitus, such as polydipsia and polyuria, and serum fructosamine concentrations in cats undergoing oral hypoglycemic therapy. Serum fructosamine concentrations lower than 400-450 micromol/L are consistent with moderate to good long-term control of hyperglycemia. Body weight should increase or remain stable, appetite should remain good and polydipsia/polyuria (as blood glucose drops below the renal threshold for glucose) should resolve with effective oral hypoglycemic therapy.

*Deborah S. Greco, DVM, PhD, DACVIM  
Emerald Coast Vet Conf, 07:7*

## Pain scale for use in dogs with OA

In dogs the prevalent method of looking at the degree of chronic pain has been the CBPI or Canine Brief Pain Inventory. This was converted from a similar scale in human medicine by Dr. Dorothy Brown and later validated. This survey consists of 4 questions asking the owner to describe the pain, an additional 6 questions asking the owner to describe the dog's ability to function and then an overall quality of life question. Each answer is scored from 0 to 10 with zero representing no pain and 10 being the worst pain or function possible. Simple addition of the scores can be used to monitor progress of the treatment as time goes on. As with all pain evaluations, they should not be given too often to avoid memory playing a part of the equation as questions are answered, and the same person should always do them without coaching from other family members. The CBPI and instructions can be downloaded at: [www.vet.upenn.edu/research/clinical-trials/vcic/pennchart/cbpi-tool](http://www.vet.upenn.edu/research/clinical-trials/vcic/pennchart/cbpi-tool).

*Michael C. Petty, DVM  
VMX Conf, 02:18*

## Managing pruritus in the cat

Itraconazole is still a good choice for dermatophytosis. Compounded formulations have been used but are known for erratic to poor absorption, it is recommended to avoid these formulations and use the trade name version. If therapy is needed long term, start with trade name capsule and consider switching to generic and monitor for worsening. Dose: 5 mg/kg, daily, for 7-14 days. Itraconazole is well concentrated in the skin and hair and many dermatologists will "pulse" therapy such as one week on, one

week off, or 2 weeks on / 2 weeks off AFTER an initial 2 weeks of daily therapy. Refractory cases may need daily dosing and up to 10 mg/kg.

*Trish Ashley DeVore, DVM, DACVD  
North American Vet Conf, 02:17*

## Managing the healthy FeLV-positive cat

Infected queens and toms should not be bred, and they should be spayed or neutered, to reduce behaviors that increase risk of disease exposure or transmission. Routine GI and external parasite controls should be provided. Some FeLV-infected cats have been shown **not to mount an adequate protective response to rabies vaccination**; therefore, it's prudent to advise owners that FeLV-infected cats should not have outdoor access, especially in rabies-endemic areas. Regardless, FeLV-infected cats should still be vaccinated with core vaccines and possibly vaccinated more frequently (for example, every six months) based on an individual cat's risk assessment and lifestyle. There is controversy surrounding the use of inactivated, modified-live or recombinant vaccines. Some researchers and clinicians suspect an increased risk for the development of injection-site sarcomas with the use of adjuvant killed vaccines, and others are concerned that modified-live vaccine viruses may regain their pathogenicity in immunocompromised cats.

*Glenn Olah, DVM, PhD, DABVP  
DVM News Magazine, 06:18*

## An OTC way to calm pets

Suggesting an over-the-counter calming supplement for an initial consultation is often helpful to begin the process of reducing fear, anxiety and stress (FAS) associated with the veterinary visit. One of this author's favorite nutraceuticals for felines is alpha-casozepine (Zylkene—Vetoquinol), because it often has a gabapentin-like effect on patients with low to moderate levels of FAS. If the consultation reveals high levels of FAS despite nutraceuticals, then we now have the ability to prescribe pharmaceuticals.

*Julie Reck, DVM  
Vetted, Jan 2019*

## Fluids in acute GI disease

Ongoing GI losses are the most underestimated part of fluid therapy, especially parvo puppies and adult dogs with acute hemorrhagic diarrhea syndrome. Without adequate vigilance, these patients will cycle back into shock as their outs exceed their ins. Body weights, weighing diapers, or at least visual estimates of fluid losses every 2-4 hours are imperative in keeping up with the vast surface area of the GI tract. It is not uncommon for some patients to require 8-10 mL/kg/hr in crystalloids. The author has treated a parvo puppy that needed 25 mL/kg/hr for some time in order to keep up with losses. *Use the scale.* If your 10 kg dog is 9.5 kg the following day, you could be 500 mL behind.

*Medora Pashmakova, DVM, DACVECC  
23<sup>rd</sup> Int Vet Emergency and Critical Care Symp, 09:17*

## Dietary fats

Dietary fats are classified according to the degree of saturation, with unsaturated fatty acids containing one or more double bonds between carbons and with saturated fats having none (being 'saturated' with hydrogen). Saturated fatty acids are most commonly found in animal fats, and historically physicians have advised human patients to consume these in moderation. Such recommendations have been recently challenged, but the additive concern about high amounts of cholesterol associated with these fat sources remains persistent. Dogs and cats, however, transport cholesterol from animal tissue primarily in HDL, the so-called 'good' cholesterol, and therefore do not appear to have any issues with the consumption of diets high in saturated fats.

*Justin Shmalberg, DVM, DACVN, DACVSMR  
North American Vet Conf, 02:17*

## Cobalamin protocol for GI disease

It is recommended that all dogs and cats with chronic histories of gastrointestinal disease should have serum cobalamin concentration measured. This is particularly important in any case with sub-optimal response to previously instituted therapy. As cobalamin is inexpensive, water soluble, and any excess is readily disposed, cobalamin supplementation should be considered for any animal with a serum cobalamin concentration lower than the laboratory reference range. *For oral cobalamin supplementation:* Protocol: daily administration for 12 weeks and recheck serum cobalamin concentration one week after finishing supplementation. Dose: 250 µg in cats; 250 µg in dogs <10 kg; 500 µg for dogs between 11-18 kg; 1000 µg in dogs over 19 kg. *For parenteral cobalamin supplementation:* Protocol: weekly injections for 6 weeks, then one dose a month later, and retesting one month after the last dose. Dose: SQ injection of 250 µg per injection in cats; 250 µg in dogs <4.5 kg; 400 µg for dogs between 4.5-9 kg; 600 µg for dogs between 9-18 kg; 800 µg dogs between 18-27 kg; 1000 µg for dogs between 27-36 kg; 1200 µg dogs between 36-45 kg; 1500 µg for dogs >45 kg. For either oral or parenteral supplementation, if the underlying disease process has resolved and cobalamin body stores have been replenished, serum cobalamin concentration should be above normal range at the time of reevaluation. However, if serum cobalamin concentration is within the normal range, treatment should be continued at least monthly for parenteral supplementation. If the serum cobalamin concentration at the time of reevaluation is less than normal, further investigation is necessary to definitively diagnose the underlying disease process and cobalamin supplementation should be continued weekly for parenteral supplementation or daily for oral supplementation.

*Ashtri Bonaparte, DVM  
Southern Cal VMA Pulse, Jan 2019*

## Insulin therapy in cats

It is possible to achieve ideal glycemic control in most cats with twice daily administration of long-acting insulin formulations. The time-action profile of these insulins is more appropriate in cats than intermediate-acting insulins and higher remission rates are reported in cats receiving long-acting insulin preparations. Currently available formulations that are routinely used in cats include insulin glargine (Lantus), PZI (ProZinc), and insulin detemir (Levemir). The recommended starting dose for these long acting formulations is 1-2 U/cat every 12 hours. The majority of cats will have acceptable glycemic control at a dose of 1-6 U/cat every 12 hours. Twice daily insulin administration is recommended and is more likely to result in good glycemic control. If it is not possible to administer insulin twice daily, once daily administration of Levemir or Toujeo (starting dose: 1-2 U/cat) may provide acceptable control of clinical signs and decrease the occurrence of complications associated with untreated diabetes mellitus. Toujeo has been studied in healthy cats, but there is limited information about clinical use available.

*Jon M. Fletcher, DVM, DACVIM  
103<sup>rd</sup> WI VMA Conf, 10:18*

## Meloxicam in small mammals

Meloxicam has become the most widely used anti-inflammatory in small mammal practice. Single dose meloxicam 0.2 mg/kg, SQ in ferrets produced plasma concentrations similar to those considered analgesic in other mammals. Female ferrets exhibited faster drug elimination and lower plasma concentrations than male ferrets. In rabbits, 1.0 mg/kg may be necessary to achieve clinically effective concentrations of meloxicam. Meloxicam 1.0 mg/kg, PO, q24h for up to 29 days may be safe for use in healthy rabbits. Meloxicam 0.5 mg/kg, PO produced significant analgesia in visceral pain tests in guinea pigs, but the same dose SQ did not prevent physiologic and mechanical postoperative changes post-orchietomy.

*Michelle G. Hawkins, VMD, DABVP  
VMX Conf, 02:18*

## Using SQ fluids

We often use SQ fluids in veterinary outpatient medicine to help hydrate a patient. Because fluids are so slowly absorbed when given in this manner, SQ administration is not appropriate for hypovolemic or severely dehydrated patients. SQ fluids are ideally utilized for outpatient medicine (e.g., the vomiting patient that needs to be fasted overnight but still needs to maintain hydration). But just how much fluid can you give SQ? The calculation for how many ml/kg to give SQ is typically *maintenance fluids*. We do not adjust for dehydration or ongoing losses with SQ fluids. Examples: 5-kg, male castrated cat presents for 4 episodes of vomiting. Physical examination: no string on oral examination, nonpainful abdomen. Amount of SQ fluids to potentially give: 5 kg x 60 ml/kg/day = 300 ml, SQ. 40 kg, female spayed Labrador presents for 3 vomiting episodes in 12 hours after ingesting garbage. Physical

examination: nonpainful abdomen; abdominal radiographs: no significant findings, no obstruction, but some fluid-filled loops of intestine. Amount to give: 40 kg x 50 ml/kg/day = 2000 ml, SQ. Giving too small of an amount of SQ fluids often does not benefit the patient. Having owners give <50 ml/adult cat is often not aggressive enough (not worth the needle poke!). That said, if a patient has a heart murmur (particularly in cats), this maintenance amount should be *reduced* to prevent volume overload.

*Justine Lee, DVM, DACVECC, DABT  
Fetch San Diego Conf, Dec 2018*

## Volumes of local anesthetic to inject

Needle size and volume of the local anesthetic injected varies from location and size of the animal. Generally, 25- to 30-gauge, 12-25 mm long needles are used. Bupivacaine or lidocaine are usually selected and volumes injected are between 0.2 and 2.5 mL. Always calculate the maximum dose you can inject and do not exceed that limit. For bupivacaine stay under 1.5-2 mg/kg in dogs and cats. For lidocaine 6 mg/kg in dogs and 2-3 mg/kg in cats. Once the needle is placed close to the nerve that needs to be desensitized, always aspirate to make sure you are not injecting the local anesthetic in a vessel before performing the block.

*Michele Barletta, DVM, MS, PhD, DAVAA  
113<sup>th</sup> ND VMA Conf, 08:18*

## Levetiracetam has to be given exactly every 8 hours

This author says this is no longer true. It used to be that three-times-a-day dosing was a real problem for some clients. Administering a medication three times a day can be a daunting task and significantly reduces client compliance. However, an extended-release formulation of levetiracetam is now available. The author uses this formulation on almost all of patients receiving levetiracetam. In some dogs you can even administer a single daily dose of the extended-release formulation. You can even put a toy-breed dog on an extended-release tablet two times a day. You know it's going to be over the recommended dose, but the literature suggests it's going to be OK. Use the extended-release formulation. It's much easier to manage.

*Fred Wininger, VMD, MS, DACVIM  
Vetted 06:18*

## Using Na/K ratio in Addison's

The Na/K ratio can be very useful as a screening tool for Addison's disease. Indeed, with a ratio >28, Addison's can be **ruled out in 95% of cases**. While a low ratio (<24) can be used to increase ones suspicion of Addison's disease, it should never be used to make a definitive diagnosis. Since this value is a ratio of 2 variables, many other factors that cause deviations in the normal ratio range (thrombocytosis, EDTA contamination, acute kidney injury, whipworms, certain drugs...) and caution should be used when interpreting this value.

*Jean-Sébastien Palerme, DVM, MSc, DACVIM  
SD VMA Conf, 08:18*

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### Treats and weight loss

Treats and tables foods are often where weight loss plans fail. It is generally recommended that no more than 10% of total kcal intake should come from foods other than a complete and balanced diet for any pet. This is to avoid dilution of nutrients with foods that are not complete and balanced. Low kcal fruits or vegetables (baby carrots raw 4-5 kcal per piece, green beans raw 31 kcal per cup 1/2" pieces) can be recommended. Some owners may request or need **food items to administer medications**. The author typically suggests melon balls (4-5 kcal per ball, melons include cantaloupe, honeydew, and watermelon) or mini marshmallows (2 kcal per piece). Commercial treats may also be given, but kcal content should be identified and restrictions of the number of treats per day should be established. The use of a daily treat box or bag put together by one family member for the household has been a useful tool for many of the author's clients to ensure they are not over-treating.

*Martha G. Cline, DVM, DACVN  
Emerald Coast Vet Conf, 07:17*

### The hemp plant and patient care

CBD is a component of both the marijuana plant and its close cousin, the hemp plant. Almost all of the CBD oil used in medicine is sourced from hemp. CBD's safety profile has been studied in dogs at Colorado State University (conclusion: safe) and research into its efficacy in seizure disorders is currently underway there. A mountain of anecdotal reports also identifies osteoarthritis, inflammatory bowel disease, allergic skin disease, appetite stimulation, and nausea relief (among others) as other potential areas of study. The one thing hemp *cannot do? It can't get you high*. Nevertheless, since 1937 the Controlled Substances Act has classified this plant as a Schedule I drug. This author has chosen to use the oil **in favor of patient care**. Most of the patients medicated by the author with CBD oil have thrived. After recommending it to hundreds of patients, the author has not yet observed an adverse reaction. Still, not all CBD oils are created equal. Do your research. Chat with veterinarians on VIN and in your vicinity. Talk to the pharmacist in charge at the company whose products you choose to recommend to be sure there's no THC at all in the product. Follow all these recommendations and you can rest easy knowing that you're offering a product that meets a high standard of care.

*Patty Khuly, VMD, MBA  
Vet Practice News, 07:18*

### A different type of surgery light

Whenever this surgeon posts pictures of herself wearing her favorite headlamp, everyone wants to know what it is. Answer: The Icon Headlamp from Black Diamond (rei.com). This lightweight, mobile and super-bright headlamp

(500 lumens for under \$100) was made for climbers and spelunkers and the like, but the author thinks it's perfect for surgical explorers too. It gives off a really nice uniform light (so you don't have a halo), and the strap that sits on top of the head helps keep the lamp in place. If you're not going to be anchored or tethered to a fiber optic light source, this AA-battery option is amazing.

*Jennifer Wardlaw, DVM, MS, DACVS  
DVM News Magazine, 07:2018*

### Perils of gonadectomized dogs

Unrelated to any particular disease or major cause of death, years of gonad exposure prolong longevity. Based upon the review of the literature, it becomes clear that canine gonads are not merely reproductive organs but critical to endocrine, musculoskeletal, behavior, and anti-neoplastic health. Among the non-reproductive functions of gonads, suppression of LH secretion and resulting LH receptor over-expression appear necessary in maintaining homeostasis. Therefore, a surgical sterilization method that enables the dog to keep gonads intact while still preventing reproduction is likely to prolong its health. Lymphosarcoma is the most common cancer diagnosed in dogs, accounting for up to 24% of all canine cancers. LH receptors are present in lymphocytes and lymphoid tissue (medulla of thymus). Gonadectomy increases the incidence of lymphosarcoma. Gonadectomized males are three times more likely to develop lymphosarcoma than unaltered males and about 1 in 10 neutered males will develop. This author's laboratory has also demonstrated the expression of LH receptors in normal canine lymph nodes as well the increased expression of LH receptors in malignant lymph nodes.

*Michelle A. Kutzler, DVM, PhD, DACT  
AVMA Conf, 07:17*

### Dosing for hypothyroidism

The frequency of levothyroxine dosing is controversial, and the only study to closely evaluate the response to treatment showed that **once daily treatment is adequate**. However, in clinical practice some dogs seem to respond better to twice-daily treatment. The initial starting dose is 0.02 mg/kg, PO, q24h. In general, you will never have to exceed 0.8 mg as an initial daily dosage even in very large dogs. If the dog has significant cardiovascular disease, diabetes mellitus, or hypoadrenocorticism, treatment should be instituted at 25% of the standard dose, with the dosage increased by 25% every 2 weeks based on clinical response and post-pill testing. Post treatment monitoring may be carried out but clinical response is the most important monitoring tool. If the patient was initially started on twice daily therapy, treatment can be reduced to once daily treatment when a good clinical response has been obtained.

*David Bruyette, DVM, DACVIM  
New England Vet Conf, 09:17*