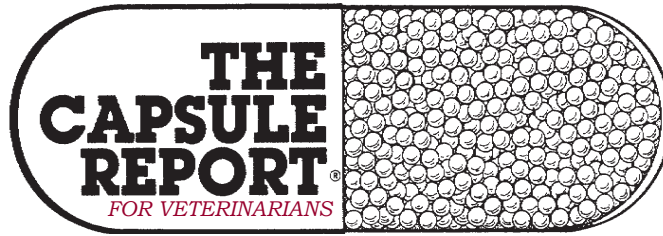


“Pearls”
of
Veterinary Medicine



Trusted By
The Profession
Since 1981

Volume 35 Number 6

September 2016

AT A GLANCE

Debridement, using body fluids; P 1
Using Ferguson's reflex to detect dystocia; P 1
Chicken thighs for homemade cat diet; P 1
Treating anemia from CKD in the cat; P 2
Vaccine myths; P 2
Cerenia used as an analgesic; P 2
Ace-receptor blockers for reduction of GFR; P 2
Early neutering—joint disorders; P 2
Early use of NSAIDs, some benefits; P 2
Feline pancreatitis and nutrition; P 3
Using fatty acids for atopy; P 3
Tips for anesthetizing brachycephalic dogs; P 3
Mistakes in handling fear aggression; P 3
Idiopathic feline cystitis; P 3
Don't forget the feet in Demodex cases; P 4
Lack of side effects when using cyclosporine for hepatitis; P 4
Trazadone for situational anxiety; P 4
Cranberry extract for UTIs in dogs; P 4

Using autolytic debridement

Keep in mind that the goal for treating acute wounds is simple—to relieve any roadblocks to uncomplicated wound healing. In a nutshell, we want to do what we can to foster a happy, healthy wound environment to let this animal's body do its normal wound-healing thing. More and more these days that appears to be fostering a moist wound environment in early healing. For any wound that needs it, surgical debridement is a must, but autolytic debridement has recently been gaining ground. This is the crux of moist wound healing. It's taking advantage of the body's own capability to debride wounds. **No longer is wound fluid seen as the enemy.** It contains endogenous enzymes that can selectively degrade necrotic tissue, inflammatory cells and phagocytes. Cytokines and growth factors stimulate the formation of granulation tissue, angiogenesis and reepithelialization of the wound. And wound fluid also provides an ideal environment for phagocytosis to occur by providing optimal pH and oxygen tension. Patients that undergo autolytic debridement tend to be more comfortable at the wound site because it's not as painful as surgical or mechanical debridement. However, the disadvantage is significant sometimes—this is a slow process. It may take a couple of days before it becomes noticeably effective.

Emily Miller, DVM, DACVS
Vetted, Apr 2016

Recognizing dystocia in the bitch

Treatment of dystocia is either medical or surgical—or a combination of the two. A targeted reproductive examination should follow a brief, but thorough physical exam. A digital vaginal examination is made using a sterile glove and lubricant such as K-Y Jelly. Factors evaluated are 1) is there a puppy palpable in the canal, 2) is Ferguson's reflex present, and 3) is lochia present—indicating a detached placenta. **Ferguson's reflex** is the contraction of the vaginal canal triggered by feathering the dorsal wall of the vagina with an inserted finger. Dystocic bitches that do not exhibit Ferguson's reflex are highly unlikely to deliver with medical management. Abdominal radiography is essential in evaluating dystocia. Questions radiographs will answer include: 1) Is the bitch pregnant? 2) Any signs of fetal death? (must be dead >24h to determine), and 3) Is an obstruction present (malpositioned puppy, narrow birth canal)? Two views of the abdomen should be taken. Radiation from the radiographs does not endanger the term or near-term puppy.

Joni L. Freshman, DVM, MS, DACVIM, CVA
SW Vet Symp, 09:14

Chronic diarrhea in the cat, homemade diet

There are a number of cats with chronic diarrhea that will respond to a homemade diet (high protein, no carb, no additives)—the best diet to try (after you have exhausted trials with appropriately chosen commercial diets) is **boiled or microwaved cooked chicken thighs**—with the fat/skin attached and the bones removed. You may need to chop this into a fine mince or blenderize it to get some cats to eat it (especially if they are not wet food-eating cats or do not get table food). This diet with a calcium carbonate tab crushed in the food (feed about 1/2 cup morning and night) can be fed for up to 2 weeks without balancing the diet. If an intolerance is the cause of the diarrhea, it will stop in this time frame, if not, an intolerance is not the cause of the diarrhea and other solutions must be sought. You must not feed this diet for longer than 2-3 weeks without adding a vitamin/mineral supplement mix and appropriate calcium to balance the diet. The best approach is to use Balanceit.com as an online approach or to consult with a nutrition specialist. Additions of probiotics or prebiotics to help influence the microflora are also reasonable therapeutic options as well as addition of either metronidazole or tylosin. Many

The Capsule Report.

cats that improve on a homemade diet can eventually go back to a commercial food, as long as the offending substance is not present in the diet.

*Debra L. Zoran, DVM, PhD, DACVIM
83rd AAHA Conf, 2016*

Treating feine CKD anemia

Due to the high rate of clinically significant side-effects with the use of epoetin, darbepoetin has been used as a replacement treatment for anemia of CKD on the premise that it would be less immunogenic due to its chemical structure. Darbepoetin was recently reported to be effective treatment for anemia in cats with CKD. Fourteen of 25 cats achieved a hematocrit of 25% or greater during treatment; nearly all of these cats were dosed at 1 µg/kg/week or higher. The most critical problem associated with epoetin, that of pure red cell aplasia, was less common with darbepoetin treatment. Vomiting, hypertension, seizures, and fever were noted as possible adverse effects associated with darbepoetin treatment. The overall costs for use of darbepoetin are similar to that for treatment with epoetin as darbepoetin is given less frequently.

*Dennis J. Chew, DVM, DACVIM
VA VMA Conf, 02:15*

Vaccine myths

MYTH: Half-dose vaccines cannot adequately immunize small toy dogs. TRUTH: Some experts advocate the whole amount, as it provides the minimum immunizing dose. The author's recent research giving half-dose of distemper and parvovirus booster to adult toy dogs elicited sustained protective immunity. Rabies vaccines must always be given in full dose, as required by law. MYTH: Anesthetized animals can safely be vaccinated. TRUTH: Vaccinating anesthetized animals is ill-advised, as a hypersensitivity reaction with vomiting and aspiration could occur. Anesthetic agents can have an **immune modulating effect**.

*W. Jean Dodds, DVM
Vet Pract News, Jun 2016*

Cerenia as an analgesic

There is good, reasonably well-controlled data that the drug we all know and love as *the cure* for vomiting, maropitant (Cerenia), also has anti-nociceptive properties, at least in anesthetized patients. In a 2012 study, parenteral maropitant decreased the minimum alveolar concentration (MAC) of sevoflurane in a pain-response model. (Epidural administration had no effect.) It has also been shown to decrease the MAC of sevoflurane in a cat spay and dog spay model. Whether it has analgesic properties in awake animals remains to be proven, but anecdotal evidence indicates that it is being **used for analgesia** by many veterinarians. Its mode of action is through inhibition of substance P (the main neurotransmitter responsible for pain transmission) binding at the NK1 receptor.

*Tony Johnson, DVM, DACVECC
N Amer Vet Conf, 01:15*

Using angiotensin II-receptive blockers

In people, a successful response to ACE-inhibitor therapy is defined as a reduction in UPC by ≥50%. Up to 50% of people with proteinuric nephropathies fail to respond to initial ACE inhibitor therapy. These 'non-responders' have increases in serum angiotensin II and aldosterone that parallel their increase in UPC, and therefore are assumed to have lost most renoprotective benefits of ACE-inhibitor therapy. This phenomenon is known as 'aldosterone escape'. Angiotensin II-receptor blockers (ARBs) are competitive antagonists of angiotensin II. Unlike ACE-inhibitors, however, aldosterone escape does not blunt ARB-induced RAAS blockade and reduction of UPC. This class of drugs is commonly prescribed as first-line therapy in people with glomerular disease, and appears to be equally effective as ACE-inhibitors at reducing severity of proteinuria, mean arterial blood pressure, and rate of GFR decline. ARBs include losartan. Published information on use of ARBs in dogs is limited. Losartan (Cozaar) is the most cost effective ARB available in the US, and has been used most commonly by veterinary nephrologists. *Article continued in the October issue*

*Barrak M. Pressler, DVM, PhD, DACVIM (SAIM)
West Vet Conf, 02:14*

Detrimental effects of early neutering

A new study conducted by researchers at UC Davis, has found that spaying or neutering German Shepherds before the age of one **triples the risk of one or more joint disorders**, particularly for cranial cruciate ligament tears. Simply delaying the spay/neuter until the dog is a year old can markedly reduce the chance of a joint disorder. Specifically: 7% of intact males were diagnosed with one or more joint disorders contrasted with 21% of males that were neutered prior to one year of age; 5% of intact females were diagnosed with one or more joint disorders, while in females neutered before the age of one the percentage diagnosed rose to 16%; mammary cancer was diagnosed in 4% of intact females, compared with <1 percent of females neutered before one year; in intact females, urinary incontinence was not diagnosed at all; however in females neutered before one year of age was diagnosed in 7% of cases.

*Benjamin Hart, DVM, PhD, DACVB
DVM News Mag, Jul 2016*

More benefits of early use of NSAIDs

Although we commonly focus on NSAIDs used as analgesics in acute pain, they have other, less obvious benefits. One of the least appreciated is that early use of NSAIDs with trauma and/or perioperatively can **help prevent the development of chronic pain states** and persistent post-surgical or traumatic pain syndromes. Untreated or inadequately treated acute, inflammatory pain is a major and controllable risk factor for the development of chronic pain. There is increasing evidence that long term use of NSAIDs in treatment plans for chronic pain can reverse central sensitization and allow

for reduction in analgesic use over time. Veterinarians have the potential to greatly impact their patient's future comfort and quality of life by aggressively treating inflammatory pain.

*Lisa Moses, VMD, DACVIM (SAIM)
82nd AAHA Conf*

Nutrition in the pancreatitis cat

Adequate nutrition (remember when we used to NPO everybody?) When managing cats with pancreatitis, up to a point, it's more important that cats eat than what they eat. Feed them quick and feed them often! It is important to place an esophagostomy tube early in the course of treatment. It's this simple: Stabilize them first, and if they are not getting better really quickly, you need to place an esophagostomy tube. Perform a clotting profile or administer vitamin K1 before placing an esophagostomy tube. Use a diet specifically formulated for recovery because these diets contain adequate amounts of protein, which is needed to heal. Feed this diet at the individually calculated amount until the esophagostomy tube is removed. Don't remove the esophagostomy tube until a cat is ingesting an adequate amount of nutrients on its own. And sometimes you shouldn't even remove it then. If the cat is receiving many different medications several times a day, leaving in the esophagostomy tube can help facilitate and ensure appropriate treatment.

*Elizabeth Collieran, DVM, MS, DAVBP (Feline)
Vetted, Apr 2016*

Using fatty acids for atopy

Essential fatty acid (EFA) supplements remain a cornerstone of conservative management. Their effects may occur through their weak anti-inflammatory effects, or through possible effects on epidermal barrier function. Though as sole therapy they have minimal efficacy, studies demonstrate they may have synergistic effects with antihistamines (improved efficacy), with glucocorticoids (dose-sparing effect), and most recently with cyclosporine (dose-sparing). Because they are relatively inexpensive, safe, and easily administered, many dermatologists advise that **ALL atopic pets should receive enhanced levels of EFA**. Dose is typically based on the total anti-inflammatory content, which includes EPA, GLA, and DHA. The total (DHA+EPA+GLA) should be administered at a dose of at least 25-35 mg/kg/d. This can be accomplished with supplements, or increasingly, with EFA-enhanced diets. It is often difficult to ascertain which foods are "high enough" in EFA to provide the required dose. Clients must be warned that many over-the-counter supplements (such as "salmon oil") have only very small amounts of the desired EFA. There is little evidence that the ratio of omega-3 to omega-6 EFA is important in skin disease. It is also important to advise clients that beneficial effects take *at least* 1-2 months to be seen -and also, that the benefits may not be obvious (for example, the medication-sparing effect).

*Douglas L. DeBoer, DVM, DACVD
Southeast Vet Conf, Jun 2016*

Anesthesia in brachycephalic dogs

This author is a big advocate of using maropitant pre-op in these patients. In fact, it is preferred to have patients come in to the hospital on it orally for a day prior. Maropitant has been proven to counteract the nausea induced by opioids and to reduce minimal alveolar concentration. In brachycephalic dogs, the author strives to reduce any excessive vagal tone or GI issues and this drug helps. The author also uses metoclopramide (0.2 mg/kg) in some brachycephalic cases. However, it is not used in patients with renal disease or pre-existing hypotension because it blocks dopamine receptors. Dopamine is an essential neurotransmitter for blood pressure and renal perfusion. **One more tip:** The author often combines butorphanol (0.1 mg/kg) coupled with a pure mu agonist in the pre-med protocol of brachycephalic patients as a sedative— not an analgesic— an antiemetic and an antitussive to help with laryngeal and tracheal issues.

*Andrea Looney, DVM DACVAA, DACVSMR, CCPR
Vet Pract News, Jun 2016*

Fear aggression

Owners of fearful and fear aggressive dogs often make the mistake of thinking that mere exposure to people will improve the problem. Although this does occasionally happen, in many cases the dog actually becomes more sensitized and reactive to the presence of people. Just taking a dog to day care or walking it around the neighborhood and letting people try to force "friendship" on the dog is dangerous for the dog and the people. Sending the dog to a boot camp also often makes the dog worse. The dog is surrounded by strangers and stressed dogs, and these facilities may use harsh training methods, which are contraindicated for fearful animals. Fear aggression is not a hierarchy problem, and the fearfulness is not related to the dog's status with the owner. At this point, a structured behavior-modification program focusing on counterconditioning is needed for this puppy.

*Lore I. Haug, DVM, MS, DACVB
NAVC Clin Brf, May 2016*

Key points in feline idiopathic cystitis

- Most cats with acute non-obstructive idiopathic cystitis are back to normal within a week, with or without therapy.
- Approximately 50% of affected cats will experience a recurrence of idiopathic cystitis within 1-2 years.
- Nutrition plays a key role in reducing the recurrence of idiopathic cystitis and preventing urethral obstruction caused by struvite-induced urethral plug formation.
- Results of a non-randomized study indicated that feeding moist food significantly reduces the frequency of recurrent episodes of idiopathic cystitis.
- Results of a randomized, controlled, double-masked clinical trial indicated that long-term feeding of an omega-3 fatty acid and vitamin E enriched multipurpose urinary therapeutic

food significantly reduces the rate of recurrence of new episodes of lower urinary tract signs in cats with acute idiopathic cystitis.

*John M. Kruger, DVM, PhD, DACVIM
West Vet Conf, 02:14*

Check feet for Demodex

One of the most forgotten and undiagnosed foot problems is *Demodex* species infection of the feet, or demodectic pododermatitis. Demodicosis is one of the most common reasons for recurrent yeast or bacterial pododermatitis, yet it's frequently missed. Instead, if yeast or bacteria are found on skin smears, a skin scraping is often neglected. Don't stop at just performing cytology of the feet and nail beds—be sure to do deep skin scrapings of the affected areas. Sometimes the initial presentation is with just one foot affected. The author has had patients that have always favored one foot since very young and were never checked for demodicosis—it was assumed they were allergic since they licked the foot. Years later, this can grow into generalized demodicosis if corticosteroids continue to be prescribed because it is thought that the patient is allergic. Be sure to rule out demodicosis before starting *any* corticosteroids as they will reduce the inflammation but incite the demodicosis even more. Remember, not all dogs that lick their feet are allergic.

*Alice M. Jeromin, RPh. DVM DACVD
Vet Med, 110:10*

Using cyclosporine for chronic hepatitis

This author tends to use cyclosporine in cases of chronic hepatitis because of its excellent immune suppression and the fact that a generic form is available and less expensive. The author has observed resolution in a number of dogs treated with cyclosporine alone at a dose of 5 mg/kg BID. It is advised to monitor cyclosporine blood levels and adjusting the dose appropriately. When liver enzymes decline, reduce the dose to daily administration. The advantage of this therapy, although it is expensive, is the lack of steroid side effects and secondary steroid hepatopathy, along with the ability to monitor progress through liver enzymes and the excellent clinical response the author has observed in many cases.

*David C. Twedt, DVM, DACVIM
AAHA Conf, 03:14*

Using trazadone

Trazodone can reliably and safely induce sedation and anxiolysis in dogs and cats, making it a useful pharmacologic agent beyond the treatment of behavior problems. Indications include use for situational anxiety related to: Noise phobia (e.g., fireworks, thunderstorms); Veterinary visits; Hospitalization; Travel; Postoperative confinement. Sedation may be achieved at lower doses as compared with doses needed for treatment of anxiolysis. The recommended starting dose for dogs is 3-7 mg/kg,

PO, once to twice a day. If the drug is used to treat situational anxieties, the same dose can be administered as needed 1-2 hours before the anticipated event; that dose may be further increased to effect. When prescribing trazodone for the first time, instruct clients to administer a test dose at home in a quiet and calm environment to monitor for time to onset of sedation or behavioral calming, duration of effect, and adverse events and side effects. If behavioral calmness and/or anxiolysis are not achieved, the dose or administration frequency may be increased to effect. When writing prescriptions or discharge instructions for trazodone, do not mistake trazodone for *tramadol*.

*Karen Lynn C. Sueda, DVM, DACVB and Julie Cho, DVM
NAVC Clin Brf, Jul 2016*

UTIs in dogs, cranberry extract

Antimicrobial resistance is an increasing concern. Therefore, alternative strategies such as consumption of cranberries or cranberry extract may be an option **for prevention of UTIs in dogs**. The present study revealed that the efficacy of cranberry extract for the prevention of UTIs was almost the same as that for an antimicrobial (cephalexin), with a lower risk of antimicrobial resistance or superinfection. Analysis of the results of the study reported here indicated that cranberry extract decreased *E coli* adherence to MDCK cells but did not inhibit bacterial growth. This effect suggested that cranberry extract has a potential clinical benefit for the prevention of UTIs in dogs.

*Hsin-I Chou, DVM, MSc
AM J Vet Res, Apr 2016*

Algorithm for choosing anticonvulsants

Do we have medical contraindications to a drug? Bad liver--Keppra (levetiracetam) or bromide are the first choices, but gabapentin and others aren't wrong with careful monitoring. Phenobarbital, felbamate and probably zonisamide are not good choices. Are the side effects going to be cumbersome? Pre-existing sedation/ataxia (i.e. dogs with known or suspected brain tumors): the author generally stays away from phenobarbital and bromide, if possible, instead reaching earlier for zonisamide or Keppra. Pre-existing PU/PD/PP, preexisting obesity, or lifestyle that is not compatible with increase in hunger/thirst/urination: Try to stay away from phenobarbital and bromide. *All* other drugs are a good choice. Cost factors: If owners are very cost restricted, zonisamide, Topamax and bromide are good choices. Keppra at low to moderate doses is okay (because of relatively low monitoring cost). Phenobarbital isn't expensive, but the author's preferred monitoring for the drug adds significantly to cost (\$120 for a level after each dose change and a \$300 monitoring profile every 6 months-CBC, liver panel, including bile acids and level). Continued in the October issue.

*Eveyln Galban, MS, DVM, DACVIM (Neurology)
Penn Vet Conf, 03:14*