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"Pearls" of Veterinary Medicine

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AT A GLANCE

FeLV testing criteria

* Test ill cats for FeLV if there is clinical suspicion of FeLV infection. * Test ill cats, if there is no clinical suspicion but the cat had a potential risk for FeLV exposure: * Test healthy cats for FeLV prior to FeLV vaccination. Prior to the first vaccination recommended for every cat; prior to the second vaccination, if the cat could have been exposed to FeLV during the last four to six (to eight) weeks prior to the second vaccination. * Test any cat on a regular basis, if the cat leads a high FeLV risk lifestyle (outdoor access, multi-cat environment, any husbandry with changing cats, etc.). Or better: recommend FeLV testing and vaccination particularly if it is a young cat. * Test any cat, if the cat is moved to a new environment (new home, shelter, cattery etc.); if the cat tests negative, quarantine (keep from other cats and any potential FeLV exposure) and retest after 4-6 weeks for absence of FeLV antigen prior to introduction into the new environment. Using this procedure most of the FeLV viremic cats should be recognized; to further decrease the risk some recommendations ask for quarantine and retesting after two months. * Test any cat that tested FeLV-antigen positive: retest the cat after 1-2 months to determine whether progressive or regressive infection prevails. Separate the cat during this period from other cats since the cat is a FeLV-infection source for other cats. This procedure may be repeated if necessary (cat remained positive) and circumstances permit and/or the testing interval may be discussed with the cat owner.

Regina Hofmann-Lehmann, Dr. med. vet.
Fred Scott Feline Symp, Jul 2018

Treating MRSP infections

Superficial MRSP infections should be treated for a minimum of 3-4 weeks or one week beyond clinical resolution. Deep MRSP infections should be treated for a minimum of 6-8 weeks or 2 weeks beyond clinical resolution. Systemic antimicrobial options for treatment of MRSP or multi-drug resistant *Staphylococcus pseudintermedius* are often limited to Amikacin, Chloramphenicol and Rifampin. Amikacin: 5-10 mg/kg, IV or SQ, q24h; Chloramphenicol: 50 mg/kg, PO, q8h (dogs), 50-100 mg, PO, q12h (cats); Rifampin: 5-10 mg/kg, PO, q12-24h.

Tomeshia Hubbard, DVM
Emerald Coast Vet Conf, Jun 2018

Shock doses of DexSP has changed

Traditionally, emergency books have included "shock doses" of corticosteroids—for example, dexamethasone sodium phosphate (DexSP) 4-6 mg/kg. However, criticalists have moved away from giving corticosteroids with trauma because of potential deleterious effects, including gastric ulceration in a poorly perfused "shock gut" in the dog, exacerbation of hyperglycemia, and delayed wound healing. Recently the author has moved to administering different doses of DexSP. An antiinflammatory dose of DexSP is generally considered 0.1 mg/kg, whereas immunosuppressive doses are as low as 0.25 mg/kg, IV, every 12-24 hours. For that reason, the ***4-6 mg/kg dose for shock is no longer indicated***. Remember that DexSP is approximately 8-15 times stronger than prednisone.

Justine Lee, DVM, DACVECC, DABT
DVM News Mag, Sep 2018

Early radiographic evidence of OA

Radiographs are mainstay for the diagnosis of hip dysplasia (HD) along with the characterization of the disease and any presence of OA. There are several ways to evaluate canine hips, which vary from using the hip extended view as what is done with OFA, or developing a distraction index as what is done with PennHip. OFA

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style radiographs are generally used in daily practice; this involves that the pelvic limbs are fully extended and parallel, the pelvis is symmetrical and the pelvic limbs are internally rotated. Sedation and/or general anesthesia is usually required. Mal-positioned radiographs can lead to false assumptions. The two most ***notable and early signs with hip OA*** are the circumferential femoral head osteophyte (CFHO) and the caudo-lateral curvilinear osteophyte (CCO). The CFHO is a white line at the articular margin of the femoral head that may or may not extend completely around the femoral head. It is graded from I to III. The CCO, also sometimes known as a Morgan's line, is a well-defined linear density on the femoral neck between the greater trochanter and the capital physis in dogs greater than 18 months of age. It is different from a puppy line in that a puppy line is an indistinct radiodense line on the femoral neck in dogs less than 18 months of age; it's in a similar location to the CCO but it is more subtle, more diffuse and shorter than the CCO. A puppy line is considered self-limiting and is not clinically significant.

Matt Brunke, DVM, CCRP, CVPP, CVA
Fetch San Diego, 12:07

Treating E coli

If you get a positive bacterial culture result, say on a routine urine screen that you happen to have cultured, but the patient is asymptomatic, ***as a general rule you do not need to treat***. Indeed, you should not. This is especially true if the microorganism shows evidence of multidrug resistance (MDR). It seems counterintuitive, but many *Escherichia coli* are nonvirulent, and these are often the resistant ones. In fact, when they acquire resistance they usually have to drop their virulence genes to make room. A resistant *E. coli* UTI that is asymptomatic may self-resolve before it drops its resistance gene and reacquires its virulence gene. If it regains virulence, it may have dropped its resistance genes. If clinical signs appear again, reculture to see if lower tier drugs are now potentially effective.

Dawn Boothe, DVM, MS, PhD, DACVIM, DACVCP
Vetted, Oct 2018

How long can Cerenia be used

The original label guidance stated that Cerenia should not be given for more than 5 consecutive days (injectable or oral at the anti-emesis dose) and for 2 days at the motion sickness prevention dose. However, ***experience has shown*** that in some patients Cerenia has been used safely and effectively on a longer-term basis (anecdotal reports, e.g., patients with neoplasia or renal disease that were experiencing ongoing nausea, vomiting, and inappetence). Many of these patients have a much better quality of life while on Cerenia, as they have less nausea and vomiting and a much better appetite. There are cats that have been treated with a daily oral dose for months to several years. Use of Cerenia in this fashion is being investigated further.

Todd R. Tams, DVM, DACVIM
88th FL VMA Annual conf, 04:17

Immunotherapy (IT) in the cat

Many cats are more tolerant of injections than oral medications, making subcutaneous IT (SCIT) a viable option for them. Cats can tolerate "***rush immunotherapy***" where IT injections of increasing concentrations are given every 30 minutes for 5-8 hrs in the veterinary clinic, allowing owners to then give injections every 1-2 weeks, avoiding the more intensive induction protocol. (Cats are pre-treated with oral corticosteroids and antihistamines prior to this protocol, and they are monitored closely during the process.)

Trish Ashley DeVore, DVM, DACVD
N Amer Vet Conf, 02:17

Cardiomyopathy and grain-free diets

Recently, there are many reported cases of dilated cardiomyopathy in dogs who are on grain-free diets caused by an amino acid deficiency. To the author's knowledge (cases are still being gathered) this deficiency has not been found in dogs being fed diets from Hill's Science Diet, Royal Canin, Iams, or Purina. Most frequent cases are dogs on exotic protein sources like kangaroo, and there appears to also be a genetic predisposition. Because of this, the author recommends transitioning a dog to a diet made by one of these major pet food companies. If the dog has a sensitive stomach and cannot tolerate other diets or if the owner is not willing to change food, there are a couple options: checking blood taurine levels or supplementing taurine. Taurine levels (whole blood) can be checked, but although most dogs with symptoms have a low taurine level, NOT ALL DO. To submit a sample, see: vetmed.ucdavis.edu/labs/amino-acid-laboratory. Taurine supplements should be from reputable manufacturers: NOW, Swanson, Twinlab, Vitamin Shoppe are a few. The anecdotal dose of oral taurine is given every 12 hours: <22 lbs, 250 mg, 22-55 lbs, 500 mg, over 55 lbs, 1000 mg. If a dog has any sign of heart disease (lethargy, coughing, panting, heart murmur) and is not on a major dog food brand, check blood taurine levels, start taurine supplement, and refer to a cardiologist.

MN VMA Newsl, Nov/Dec 2018

IVDD, surgery or conservative?

If it is the patient's first episode and the animal is experiencing spinal pain only, conservative management should be initiated (grade I disease). Most of these animals will respond to cage rest, but some may require surgery if the pain does not subside or if neurologic signs occur. Animals with thoracolumbar disc disease experiencing mild ataxia, but good ambulatory ability can also be managed conservatively (grade II). However, these dogs need to be monitored carefully for disease progression and be referred for surgery if the neurologic status worsens. High grade II and low Grade III dogs are in a gray zone for appropriate treatment. If the animal is weakly ambulatory,

conservative management can be considered, but the animal should be kept in the hospital to serially monitor its neuro status every few hours. For animals at this stage, the owner should be informed that surgery may be the best treatment option and referral to a surgical facility should be considered. Although some surgeons may not operate the dog if it can still ambulate to some degree; the surgeon will have the option to monitor the animal closely and operate if needed. If the owner does not want referral and the animal is improving over the first 24-48 hours, then conservative management can be continued at home. If the animal is not improving over 24-48 hour period, then surgical decompression is recommended to the owner. If the animal worsens, then emergency surgery is recommended.

Garrett M. Levine, DVM, DACVS
New England VMA Conf, 09:17

Weight loss in the Guinea Pig

Because guinea pigs have a propensity to hide illness, most owners do not notice something is wrong until the disease is advanced and signs such as weight loss or anorexia are obvious. Because guinea pigs tend to hold food in their mouth, an ***empty mouth should prompt suspicion*** of anorexia. Blood work, including obtaining total thyroxine levels, is also important if a guinea pig loses weight, as hyperthyroidism appears to be common in female guinea pigs older than 3 years.

J. Hedley
WSAVA Clinician Brief, Apr 2018

Treating aggression

Whatever the situation, treatment of aggression must always involve a comprehensive treatment plan. Veterinarians can face tremendous pressures from clients who come in wanting medication for aggressive dogs. In too many instances, they've been directed by a dog trainer or other lay behaviorist to ask the veterinarian to prescribe a specific medication. That way ***lies legal peril***. You have to be the one who works up and diagnoses the case, not some layperson with or without a high school diploma. Any time aggression is involved, if there is ever a legal case, veterinarians must be able to stand up and justify how they reached a diagnosis, why they chose a particular treatment plan, medication, and dose, how they followed up, and what other safety steps they took. No lawyer is going to say, 'Oh, the doctor was told by the dog trainer to do this. Let's go talk to the dog trainer.' You are the license holder. Stick with cases you're comfortable with, in which damages will be limited if the problem isn't managed ideally. If that urine-spraying cat trashes another couch, it's not going to cost you big bucks. But when you talk about potential human injury, it is a whole different ballgame. This author advises his general practice colleagues to stay away from aggression cases unless they feel really comfortable that they can meet standard practice in that particular field.

Patrick Melese, DVM, DACVB
Vet Pract News, Jun 2018

Diagnosis of hip dysplasia

Early detection is key, in susceptible breeds hip palpation should begin by 12 weeks of age. If they have a positive Ortolani or have a high DI after 16 weeks of age then juvenile pubic symphysiodesis (JPS) should be considered in at-risk breeds. A JPS is a minimally invasive way to prematurely cause fusion of the pubic symphysis. This causes ventro-lateral rotation of the acetabulum with growth of the animal (resulting in ventroversion and improved femoral head coverage). The procedure is completed with a small incision to the pubic symphysis, electrocautery is then used every 2-3 mm along the symphysis at 40 watts for 12-30 seconds. Best results are achieved in patients before 16 weeks of age (20 weeks in giant breeds) resulting in about 10-15 degrees of ventroversion if done at 16 weeks. No real benefit is gained if completed in animals greater than 22-24 weeks of age. The resultant hip changes are similar to what is seen with a triple/double pelvic osteotomy (DPO/TPO); however, it is easier and faster with fewer complications and no implants are needed.

David Dycus, DVM, MS, CCRP, Dacvs
Music City Vet Conf, 02:18

Fighting cyberbullying

The AVMA has made a commitment to provide members with tools to fight cyberbullying. These include a full suite of materials that simplify reputation monitoring and social media. At avma.org/OnlineReputation, you'll find best practices, a reputation-monitoring checklist, and templates and other tools to walk you through the crucial steps needed to protect against online critics. You'll also find a complete guide to handling negative comments and cyberbullies.

Vet Pract News, Jun 2018

Propofol vs. Alfaxalone

Propofol has several formulations available. The formulation may or may not have a preservative. Without a preservative, once the vial is broached, any unused drug should be discarded after 6 hours. Alfaxalone does not contain a preservative and, like preservative-free propofol, any unused drug must be discarded 6 hours after the vial is first broached. Australia label indication states that alfaxalone may be kept refrigerated. A 10 ml vial of alfaxalone costs the veterinarian $32.90. In comparison, a 20 ml vial of propofol is approximately $7.00. For a 5 kg cat, induction of anesthesia will be $3.29 with alfaxalone and $ 0.88 with propofol. For a 20 kg dog, the cost of induction will be $13.16 with alfaxalone and $3.50 with propofol. Therefore, the cost of alfaxalone is approximately $0.50/kg greater compared to propofol. The risks and benefits must be measured to determine if the cost difference is the determining factor as to which drug is selected.

Elizabeth A. Martinez, DVM, DACVAA
VMX, 02:18

Open peritoneal drainage, proper or not?

Treatment for generalized septic peritonitis historically often included open abdominal drainage (OAD). This procedure is becoming less common because of the intense management, the need for frequent sterile bandage changes, the high morbidity, and the costs involved. In this study of not using OPD, the mortality rate was 46%, which is comparable to previous studies in which the abdomen was left open postop. This suggests that OAD may not be necessary as long as the cause has been eliminated surgically and aggressive supportive care is provided. The following sequence of events can therefore be recommended: * Remove the identified source of contamination. *Lavage with copious amounts of warm, sterile fluids. ***Avoid OAD at all costs***. *Base antibiotic choices on cultures obtained. *Be prepared to provide intensive supportive care postop—or refer to someone who will. *Conclusion: Avoid OAD at all costs.

Phil Zeltzman, DVMDACVS, CVJ
DVM News Magazine, 06:18

Food for thought?

In discussing Feline Interstitial Cystitis, this author wonders how many women veterinarians are suffering from stress-related interstitial cystitis. Yeah, You didn't expect an article about FIC to get so personal, but what if cats suffering from FIC are the proverbial canary in the coal mine, little angels sent to warn us of the systemic effects of chronic stress and remind us while we're treating them differently to do something kind for ourselves as well. Who knows? By shifting the mindset of how we approach cats with FIC, maybe we'll shift something in ourselves as well.

Sarah J. Wooten, DVM
Vetted, 113:3, 2018

Treatment of septic shock

Natural colloids, such as albumin, are typically reserved for dogs with clinically severe hypoalbuminemia (usually <1.0 g/dL) secondary to severe sepsis, septic shock, especially following major surgery. Concentrated canine albumin solutions have been only intermittently available; therefore 25% HSA is the most commonly used albumin solution. The use of this solution appears to be relatively safe in critically ill dogs; however, there have been reports of delayed hypersensitivity reactions occurring in these patients. Dosing human serum albumin in dogs can be done in a few different ways. One method involves calculating the patient's albumin deficit. Albumin deficit (gm) = 10 x (desired albumin-patient albumin) x weight (kg) x 0.3. Alternatively: 2 ml/kg of 25% HSA over 2 hours, IV followed by 0.6 ml/kg/hr for 10 hours for a total dose of 2 gm/kg.

Anusha Balakrishnan, BVSc, DACVECC
NY St VMA Conf, 05:18

Behavior training

When a dog is no longer rational and has entered emotional reactive mode, no training or rational learning will occur. This is why many force-free trainers and veterinary behaviorists will instruct families to give treats when a dog is barking at something while on a walk. This technique, known as ***counter-conditioning***, teaches the dog that something amazing happens when they see another dog or person. This changes the emotional response from fear to happy anticipation. It's a common misconception that fear can be reinforced. Fear and aggression are emotions, not behaviors the dog performs based on learning an operant behavior (i.e., sit, down, etc.).

Amy L. Pike, DVMDACVB and Jessey Schelp, LVT,
Vet Practice News, 02:18

Ways to limit cost of cardiology diagnostics

One of the most useful considerations is how likely the results of the test will change your treatment recommendations. If they won't change your treatment the test isn't essential. When considering tests that are most likely to affect your treatment, consider whether an arrhythmia is present when determining how helpful an electrocardiogram (ECG) will be. The ECG can give useful information regarding heart size, but both thoracic radiographs and echocardiography have been shown to be superior. When considering usefulness of thoracic radiographs, consider the basic question: Is the dog exhibiting respiratory clinical signs suggestive of congestive heart failure? If congestive heart failure therapy has already been initiated and the dog now has a normal resting breathing rate and is clinically normal as far as the owner's description, how likely are radiographic findings to change your recommendations?

Meg Sleeper VMD, DACVIM
AVMA Conf, Jul 2018

Proper cerclage wire technique

Spool wire is cut to the desired length and then secured by twisting the wire ends with pliers, needle holders or special twisting instruments. Firm, sustained even tension on the two wire ends during twisting ensures proper intertwining of the 2 wire ends (like a DNA double-helix) rather than the twisting of one wire end around the circumference of the other (like a snake on a stick). It is ***preferable not to bend the twist knot over*** because this causes a 30% loss of wire tension, but proximity of the protruding wire to neurovascular structures must be considered. The wire is usually cut at the 3rd or 4th twist.

Ross H. Palmer, DVM, MS, DACVS
N American Vet Conf, 02:17

Note: In providing a wide range of expertise and opinion, this issue has 23 different authors.

Diagnosis of feline hyperthyroidism

Serum total T4 is the screening test of choice for cats with hyperthyroidism, with only 2% false positive test results when using equilibrium dialysis methodology. A high circulating total T4 is the hallmark of hyperthyroidism and is extremely specific for its diagnosis. In cats with early hyperthyroidism or concurrent nonthyroidal disease, T4 levels can be normal or high normal. This could also be because thyroid hormones fluctuate daily. Even cats with extremely high T4 levels one day can have TT4 measurements in the normal range on other days. In a cat that hyperthyroidism is strongly suspected clinically, but theTT4 concentration is normal, one should recheck the TT4 on another day. Nonthyroidal illness can lower TT4 concentrations by causing changes in protein binding and thyroid metabolism, resulting in interpretation as occult hyperthyroidism. Finally, normal ranges for feline TT4 may be misleading as "normal" may change with age. Older cats without hyperthyroidism have low-normal TT4 concentrations naturally, so a high-normal finding may actually be indicative of hyperthyroidism. Approximately 10% of hyperthyroid cats have normal total T4 levels according to standard laboratory values. Cats with thyroid carcinomas may have T4 levels >5-10 times normal. False-positive results (high total T4 in a cat without hyperthyroidism) are rare but are seen. 25%–30% of cats presenting with borderline-high total T4 values, sometimes together with high free T4 concentrations, turn out to be euthyroid. Measurement of serum free T4 (FT4) is useful in diagnosing hyperthyroidism in cats that are suspected of having hyperthyroidism but have normal total T4 concentration. Serum FT4 levels are less affected by nonthyroidal factors than is TT4. This is a more sensitive diagnostic test than the TT4 or the T3 but has less specificity (25% false positive rate). Therefore, a FT4 level should only be interpreted in conjunction with a total T4 concentration. An elevated FT4 without an elevated TT4, thyroid nodule or clinical signs of hyperthyroidism is unlikely clinically significant. Using the equilibrium dialysis method for FT4 determination will give the most accurate diagnosis.

Diane Monsein Levitan, VMD, DACVIM
Atlantic Coast Vet Conf, 10:16

Good and bad of raw food

Despite many anecdotal claims, there have been no scientifically documented advantages to feeding raw meat diets to dogs and cats. Aside from the health risks associated with consuming raw meat, home-made raw food diets are often nutritionally incomplete and unbalanced. Out in the wild, dogs and cats consume the entire prey, including the organs where many nutrients are found. Raw food diets that are not formulated for sources of fat, calcium, and other required amino acids and vitamins cause pets to become at serious risk for malnutrition. Other risks include esophageal obstruction or tearing from consumption of raw bones. Assuming they meet AAFCO nutritional standards, commercially available raw food diets have the benefit of being complete and balanced. However, unpasteurized raw food diets carry a serious risk for bacterial contamination, not only of the food and the pet, but of the people and household. Though some pets do not become sick when infected with Salmonella, they can shed it in their saliva and feces, which means that their entire body may be contaminated with bacteria. All humans are at risk for Salmonella toxicosis, but it can be a fatal disease in young children, elderly, and immunosuppressed individuals. Commercially prepared raw diets may meet the nutritional requirements of your pet, but they can still result in the spread of harmful bacteria to humans and may make your pet sick. If a pet owner has a strong desire to feed their pet a raw food diet then a commercial raw diet that has undergone ***high-pressure pasteurization*** is highly recommended. High-pressure pasteurization occurs at a cold temperature so the meat is not cooked but pressure is increased above the point that bacteria can survive. This process is a great way to decrease the risk of bacterial contamination of raw food.

Angela Witzel, DVM, PhD, DACVN
Music City Vet conf, 02:18

Feline cardiomyopathy—acute pulmonary edema

This stage is life threatening. Supplemental oxygen (40%-60% O_2-enriched inspired gas) may improve pulmonary gas exchange. Diuretics represent the cornerstone for acute, emergency management. IV bolus furosemide (1-2 mg/kg, IV); repeat if needed in 1-2 hrs; then 1 mg/kg, every 8-12 hours is administered until evidence of reduced lung crackles, improved breathing rate and effort are observed, at which time furosemide dose is briskly reduced. Alternatively, furosemide is administered by continuous infusion (0.25-0.35 mg/kg/hr) following an initial IV bolus. There is no proof that IV bolus or continuous infusion is superior. Some clinicians add pimobendan, 1.25 mg, BID while others reserve this for resistant or recurrent CHF. Trans-dermal 2% nitroglycerin ointment, 1/4 to 1/2 inch, q6hr can be added for the first day or two in severely affected cases. Clopidogrel (18.75 mg, daily) or aspirin, (10-20 mg, every 3 days) is administered to cats judged to be at risk for thromboembolism (e.g., large atrium, blood stasis, myocardial failure). Angiotensin converting enzyme inhibitors (ACEI) such as enalapril (1.25-2.5 mg, q24h) can be added, usually at first recheck if renal function is normal. Clinical improvement is indicated by reduced respiratory rate and effort, resolved lung crackles, and radiographic clearing of alveolar infiltrates (usually by 24-36 hr post therapy). Dehydration, azotemia, and hypokalemia can result from over-diuresis. Close monitoring of creatinine and electrolytes is important.

Philip R. Fox DVM, MS, DACVIM/ECVIM-CA, DACVECC
Fred Scott Feline Symp, Jul 2018