Is your Practice Cat Healthy?
CVMA-SBCV Fall CE 2014
Liz Ruelle DVM DABVP (Feline Practice)
Wild Rose Cat Clinic of Calgary, Calgary Alberta
info@catmd.ca

There has been a lot of buzz generated around cats veterinary care in the last few years. As clinics have seen stagnant growth and/or revenue loss from the 2008 economic downturn, there is a drive to look for areas of veterinary medicine that can boost clinic revenues. Therefore, looking towards promoting cat medicine will achieve, not only better health in our feline companions, but healthier practices.

So what do we know about cat care? Cats have replaced dogs as the most popular companion animal in our homes but we are not seeing this popularity translate into clinic visits. As noted in the 2013 Bayer-AAFP study, it was recognized by the majority of practitioners that we need to do something to help improve cat health care and compliance however, at the same time, we are not putting those thoughts into action. In other words: cats, cat owners, and practitioners alike do not like taking the cat to the vet clinic.

So why is it important to care about cat visits? Boosting compliance and visits among our feline patients is not just better for their health and wellness but it is good for the financial health of our practices. As noted in the 2013 Bayer-AAFP study, most practices have the ability to accommodate more cat visits without putting a strain on scheduling. In addition to the revenue generated from those examinations, it must be considered that many of these cats will require vaccinations, deworming, dental care, diet plans, blood work, etc. which translates into valuable clinic revenue.

So what can we do to help boost cat compliance? Welcome to Cat Healthy Canada! Cat Healthy Canada is an initiative, spearheaded by Dr. Liz O’Brien DVM DABVP (Feline practice), that brought together the Canadian feline specialists together to draft cat care guidelines – the first of their kind in North America. These guidelines represent a combination of the authors’ knowledge, experiences in practice (both as veterinarians and practice owners), and current research.

The goal of Cat Healthy was to make a set of comprehensive guidelines that covers the wellness visit from the moment a perspective client calls the clinic until the cat is safely home again. Thus, the cat healthy guidelines include sections on:

1) The healthcare needs of cats
2) Travel to the veterinary clinic: Not so cat friendly!
3) Questions to ask: The medical history
4) Nutritional assessment
5) Comprehensive physical examination
6) Vaccinations
7) Parasite control
8) Retroviral testing
9) Surgical sterilization: Earlier is better
10) Dentistry
11) Role of pet insurance in provision of health care
12) Nail and coat care
13) Preventive care and disease screening
14) Pain assessment and management
Unlike conventional guidelines that seem out-of-date by the time of publication, these guidelines have a strong web presence. As a “living document” one of the initiative’s goals is to be current as possible in the ever changing world of cat medicine. With a Pinterest vibe, the guidelines are available online (http://cathealthy.ca/) as a complete document, as a simplified version, and by section.

Cat Health success is meant to be a whole clinic initiative as these guidelines are meant to assist every team member including receptionists, veterinary assistances, animal health technologists, and veterinarians. So as to not be overwhelmed, look towards the most cat-centric person in your practices to spearhead the initiative. So as not to be overwhelmed, start with one or two section to focus on (starting with getting cats to the clinic and what questions to ask) and then build from there.

So what more can I do to make my practice even more Cat Healthy? As mentioned, all the authors of Cat Healthy are ABVP certified feline specialists who have devoted their careers to caring for cats. To this end, all cat specialists have developed tips, tricks, and pet peeves of being cat vets stuck in a dog’s world. Summarized are some these practical ways to improve your clinic’s cattitude:

1) Join the AAFP: Member benefits include 10% discount on VIN (can help offset the cost of membership), a subscription to the Journal of Feline Medicine and Surgery, updated guidelines, and a network of other veterinarians interested in cat health. For more information on the AAFP, please go to: www.catvets.org

2) Consider pursuing ABVP diplomate status: In addition to feline only tract, the ABVP have a specialty for everyone’s interests including canine/feline, avian, exotic, and shelter medicine tracts. Although a challenging journey there is both great pride in the knowledge obtained by becoming an ABVP diplomate and being able to call oneself a specialist. For more information on becoming an ABVP diplomate, please go to: www.abvp.com.

3) The ADR cat and Rules of hospitalization: We have all faced the “ain’t doing right” cat. Their symptoms are often vague and generally include a combination of weight loss, anorexia, and intermittent vomiting. Physical examination findings are non-specific and may include signs of muscle wasting, mild abdominal pain, dehydration. When focusing on these symptoms of disease, it is amazing what can be achieved with a bolus of subcutaneous fluids and supportive care. As a firm believer that cats thrive in their own environment consider hospitalization only when really necessary (such as in severely dehydrated patients). When a patient does need to be hospitalized, look to keep them for no more than 3 days as, beyond that time, our ability to care for our feline patients goes down as they become depressed in the clinic setting.

4) Supportive care for the ADR cat: In addition to subcutaneous fluids, treating a cat supportively can speed healing. My ADR cat supportive care “hangover” cocktail includes a core cocktail of:
   a. Maropitant (Cerenia®): See below for more information on the use of Cerenia in cats. Standard dose: 1mg/kg or 0.1ml/kg body weight of a 10mg/ml solution.
   b. Vitamin B12: See below for more information on the use of Vitamin B12 in cats. Standard dose: 0.5-1.0ml per cat as a single dose of a 1000ucg/ml solution.
   c. Ranitidine (Zantac®): An H2 acid suppressor, ranitidine is a compliment to Cerenia working to reduce acid reflux and as a treatment to help the irritated gastric mucosa. In addition, ranitidine appears to stimulate colon motility thus it is a nice benefit in senior cats that, due to dehydration,
may be at higher risk for constipation. Dose 2.5mg/kg (this translates into 0.1ml/kg of the 25mg/ml injectable solution)

Additional meds (depending on diagnosis and clinical findings) can include:

d. Vitamin K: Dosed at 1.5mg/kg for a maximum of 3 doses q12hrs. Vitamin K is given to anorexic cats and cats that are clinically jaundiced or have known liver disease.

e. Steroidal anti-inflammatories: if there are concerns for IBD or pancreatitis flare-up then considering adding steroidal anti-inflammatories as this targets the lymphocytic/plasmacytic inflammation most often encountered in these GI diseases. Standard dose: Dexamethasone 0.1 - 0.2mg/kg or Prednisolone 1mg/kg (5mg per cat).

f. Non-steroidal anti-inflammatory drugs (NSAIDs): Although NSAIDs need to be used with caution in dehydrated patients they are good for both pain control and fever reduction. Standard dose: Meloxicam (Metacam®) 0.1mg/kg Lean Body Weight or Robenacoxib (Onsior®) 1mg/kg Lean Body Weight.

g. Narcotic pain control medications: Pain is now considered the fifth vital sign and an important symptom to treat in cats. If NSAID use is contraindicated, consider using narcotic pain control medication as these are well tolerated and can be used in conjunction with other drugs including steroids. Due to its positive patient response, minimally constipating effects, and longer duration of action Buprenorphine is now our narcotic of choice in cat care outside of the surgical suite. Standard dose: Buprenorphine: 0.01mg/kg with a dose range of 0.05 - 0.02mg/kg.

Please note: all cocktail drugs can be flushed into the SC fluid line for easier administration.

5) Maropitant (Cerenia®): The drug that was designed for dogs but is amazing in cats

Research: Cerenia works by inhibiting Substance P. Thus, it works as an anti-nauseant as Substance P is found in high levels in the chemotactic trigger zone. Cerenia® also appears to have novel pain properties as Substance P appears to be involved in pro-inflammatory pathways.

Indications:

Pancreatitis patients: Cerenia® has become the cornerstone of care for pancreatitis cats in my practice as it appears to target both the nausea and pain associated with this disease process.

Appetite stimulant: Although blocking Substance P actually reduces appetite (so at the pharmacological level this statement appears contradictory), by making a patient feel better (such as by controlling chronic nausea) appetite may be improved. It is treating the why a cat is not eating rather than forcing them to eat when feeling unwell.

Dosing: Standard dosing is 1 – 2mg/kg (this equates to 0.1ml per kg body weight SC or 1/4 to 1/2 of a 16mg tablet PO) every 1 – 2 days. Be aware that too much substance P suppression may cause Parkinsons-like side effects. Therefore Cerenia® should not be given every day. Although not available commercially as a liquid, the tablets can be compounded into one by most compounding pharmacies.

6) Vitamin B12

Research: Vitamin B12 is absorbed from digesta in the small intestine. To be absorbed, it must first be bound to a co-factor before “docking” with the small intestine. From there it is taken into circulation and stored in the liver. In a recent study, it was shown that a healthy cat has maximum 3 weeks of Vitamin B12 stores and that a sick cat will have less than a week's supply
Vitamin B12 is a co-factor for the Krebs cycle. Touted for anti-stress and happiness properties, in people the symptoms of cobalamin deficiency are mostly cognitive (such as senility). Cats with Vitamin B12 deficiency tend to have GI symptoms (weight loss, diarrhea, vomiting) although some clients have reported improved “catitude” when starting their cats on this vitamin.

**Indications:** The following cats should be considered for Vitamin B12 supplementation:

a) Diabetic cats. By having diabetes, they are shown to have a grumpy pancreas and are likely not making sufficient co-factor

b) Cats with small intestinal disease such as severe IBD and lymphoma that may affect the B12-cofactor complex from binding to the intestinal wall

c) Cats with low cobalamin blood levels including cats that are at the low end of the reference range. The historic reference ranges for Vitamin B12 are broad (200 – 1100) and may not represent true biological need.

d) Geriatric cats: Vitamin B12 deficiency is common in aging people suggestive that the absorption pathway becomes less efficient as we age. In addition, our “pet parents” are looking for natural, holistic ways to help their pet’s age gracefully. I find many owners are keen to try Vitamin B12 in their cats as it meets these criteria while having a great benefit for health.

**Dosing:** Dose: 0.25ml (25 units with a u-100 insulin syringe or 10 units with a u-40 insulin syringe) every 7 days for 6 weeks then every 14 days for 2 months then every month or to minimum effective dose; for cats with diseases that will increase deficiency (diabetes, pancreatitis, lymphoma), they may consider more frequent (i.e. weekly dosing).

When considering long term dosing, there appears to be concerns that we can have too much of a good thing as Hypercobolamenia may be a risk factor for neoplasia. This would make sense as an abundance of Vitamin B12 would make the Kreb cycle of cancer cells more efficient too.

7) Common diseases and current knowledge:

A) Feline Idiopathic Cystitis and anxiety induced inappropriately urinating cats:

**Research:** Feline idiopathic cystitis (FIC) is likely multifactorial in cause, although indoor lifestyle and feeding dry foods have been implicated. Currently dubbed a “brain to bladder” disease FIC is associated with an abnormal stress response in cats (and women). FIC is painful! But the cause is not infectious in nature so **do not** prescribe antibiotics.

**Treatment:** Treatment of FIC can be divided into both short and long term care plans.

**Short term** care should focus on symptomatic and supportive care:

a) Pain control: NSAIDs and narcotics (buprenorphine).

b) Urethral anti-spasmodics (to prevent obstruction): based on the anatomy of urethral muscle in cats, benzodiazepines (i.e. alprazolam and midazolam) and alpha-2-agonists (i.e. prazocin) work in compliment to reduce spasm. Diazepam must be avoided in cats due to risk of liver damage.

**Long term** care should focus on environmental enrichment and reduction of stress.

a) Environmental modification: Dr. Buffington at Ohio State has done the most research into FIC and his website: [http://indoortet.osu.edu](http://indoortet.osu.edu) is a great resource for clients.

b) Anxiolytics: Anti-anxiety therapies can include natural supplements (milk protein derivatives, amino acids [theanine, tryptophan], etc.), pheromone sprays (Feliway®), and prescription
anxiolytics (TCAs, SSRIs). Sadly there is still no magic pill to make FIC cats, and other anxious kitties, pee in the litter box. That said, recent diet and nutraceutical options are making it easier to manage anxiety in the home without resorting to prescription based therapy such as SSRIs (e.g. Fluoxetine) or TCAs (e.g. clomipramine). Both dietary and nutraceutical therapies focus on amino acids and/or milk protein derivatives (Casein) to reduce stress.

c) Here is a list of natural anxiolytics available in practice:
   Diet: Hills C/D multicat stress formula FIC, Royal Canin Calm
   Nutraceuticals: Zylkene® (Vetoquinol) and Nutricalm® (Rx Vitamins/Centaur)

B) Urinary Tract Infections (UTIs) and cats:

Research: Unlike FIC, stones, and crystals UTIs are not common in young cats with healthy kidney function (<1% incidence). UTIs are common in senior female cats with a history of kidney disease as the reduced USG makes them more susceptible to infection.

Diagnosis: Diagnosis of UTIs can be based on suspicious sediment (pyuria; >3WBC/hpf and/or bacturia) or a positive culture. Diagnosing a UTI based on the leukocyte chemistry strip is unacceptable. The leukocyte chemistry is made for, and thus accurate, in people. A positive leukocyte reaction in cats is a false positive. Do not even report it on your urine sheets!

Generally we are most likely to culture one of two pathogens - *E. coli* and *Enterococcus spp*. In practice, I most often culture *Enterococcus spp.* in young cats (those exception cases) and *E. coli* in senior cats.

Treatment: Convenia® (Cevofecin) antibiotics will not target *Enterococcus spp.* but will work for *E. coli*. Fluoroquinolones and Amoxils have the appropriate spectrum for both pathogens. So it would seem that Amoxil based antibiotics are the best first choice. However, concerns over adverse reactions (diarrhea and vomiting) and/or owner compliance (once vs twice daily medication options) may make Fluoroquinolones a better first choice. If going with a fluoroquinolone, options include Marbofloxacin (2.75mg/kg q24) and Enrofloxacin (5mg/kg q24).

C) Feline Herpes:

Research: It has been estimated that >90% of cats will become carriers for the feline herpes virus (FHV1) in their lifetime. Most cats will be infected as kittens. Just like human herpes infections, this virus can alternate between dormant and active states (viral recrudescence). Clinical manifestations of herpes are most often “cold like” with sneezing and naso-ocular discharge being the most common symptoms. Some cats may “favor” corneal ulceration or uveitis.

Treatment: The first factor to consider with treatment is establishing realistic expectations with the client at the first episode of eye discharge. Make them aware that the goal of therapy cannot be disease clearance but will be disease management. Clarify that this is a cat-specific herpes and humans are not going to catch it (even when owners give their cat kisses). Although there is not a lot of great empirical evidence available, treatment options can include:

a) Vaccinations: Will boost humoral (antibody) immunity so good at minimizing disease but will not prevent it nor clear it from the body of a previously infected cat.

b) L-Lysine: Boots out arginine in the virus’s replication pathway to slow the rate of viral reproduction. Although safe for long term use, compliance may be a challenge. If insufficient dose is ingested it is not effective.

c) Probiotics: Immune system boosters can include novel supplements like probiotics (FortiFlora®/*Enterococcus faecium*). The challenge with using probiotics is that not all bacterial strains have the same in targeting immune system health. Currently probiotic therapy (Forti
Flora®) is my preferred way to treat FHV1 as I seen good compliance from both the cat and the owner. Good owner compliance may be because a lot of owners are aware of the benefits of probiotics and take them themselves. Probiotic therapy is both not harmful (unless flavouring agents cause allergy concerns) and safe for long term use.

d) Anti-viral drugs: Antiviral drugs can include ophthalmic preparations (Idoxuridine) or systemic anti-viral drugs (Famciclovir). The newer ophthalmic preparation Cidofovir has been touted as being more effective, and only needed twice daily. My experience with Cidofovir is very limited and the drug is very expensive. Of systemic antiviral drugs, Famciclovir appears to be safe and well tolerated but is considered therapy of last resort. Recent studies have shown sufficiency concentration of antiviral drug in tear film to be a reasonable alternative to eye drops. Dosing of famciclovir is much higher than before (30mg/kg q8hrs) and is safe up to 90mg/kg.

e) Antibiotics: Used to treat concurrent secondary infection. If Mycoplasma pneumoniae is a suspected pathogen then select a drug with appropriate spectrum (such as Azithromycin or Fluoroquinolone).

f) Pain control: We know that Herpes infection in people is painful (think Shingles) so it is possible that FHV infection could be painful in a percentage of feline patients. NSAIDs (Meloxicam/Metacam® or Robenacoxib/Onsior®) are the drugs of choice if our patient is well hydrated and systemic therapy is desired. If there are concerns for ocular pain, then consider using diclofenac (Voltaren®) ophthalmic drops as a topical NSAID.

**Recommended Literature:**
www.cathealthy.ca

www.catvets.org

www.abvp.com

Little SE. The Cat: Clinical Medicine and Management. Elsevier 2012


