Cat Healthy:

Putting the

Simplified

Protocols into

Purractice



Margie Scherk

DVM, Dip ABVP (feline practice)

Vancouver, BC, Canada















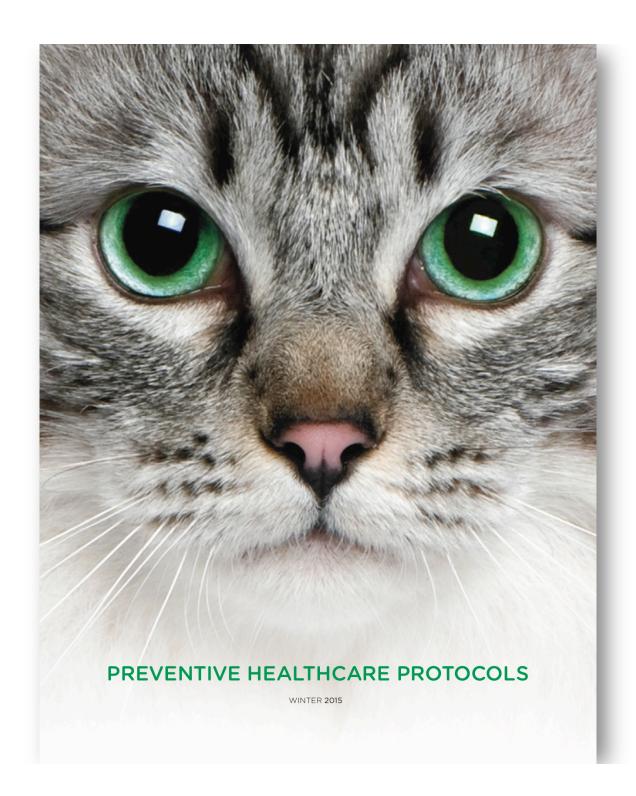


Practice health

- Goals
 - Provide excellent patient and client care
 - Grow our knowledge and abilities
 - Nurture the people on our staff team
- Requires financial soundness
- Wellness programs











OUR MISSION IS HEALTHIER CATS. OUR MOTIVATION IS LOVE.

Cats sprawl across our open newspapers and rev their motors to lull us to sleep. They bat their way out of paper bags and into our hearts. Yet, 50% of cats in Canada haven't seen a veterinarian in the last year.¹

That's why Canada's veterinary feline specialists created Cat Healthy, an initiative to help more cats receive the preventive healthcare they need to live longer, healthier lives.



Cat Healthy encourages veterinary hospitals to participate in the AAFP Cat Friendly Practice Program.

Table of contents:

The healthcare needs of cats	04
Travel to the veterinary clinic: Not so cat friendly!	05
Questions to ask: The medical history	06
Nutritional assessment	07
Comprehensive physical examination	10
Vaccinations	11
Parasite control	12
Retrovirus testing	13
Surgical sterilization: Earlier is better	15
Dentistry	17
Nail and coat care	18
Preventive care and disease screening	19
Pain assessment and management	20
Home care, compliance, and follow-up	22
Identification and licensing	24

LET'S ELEVATE THE STANDARD OF SETVER FELINE CARE ACROSS CANADA CO

The Cat Healthy Preventive Healthcare Protocols are designed to provide practical recommendations to raise the standard of care for cats all across Canada.

These Protocols are based on published evidence whenever possible, as well as the consensus of six board-certified Canadian feline specialists. While these Protocols serve as suggested guidelines, practitioners should use their professional judgment based on risk assessment to tailor the preventive care for individual patients.





poisonedpets.com ecosalon.com

Help cats live longer, healthier lives by creating a culture of life-long, preventive healthcare.





WELCOMING CATS

A visit to the veterinarian can be stressful for cats and their owners. In fact, 58% of cat owners say that their cat hates going to the vet. And 38% say just thinking about going to the vet is stressful. Wrestling cats into carriers at home and dealing with dogs in the waiting room can be overwhelming.

To help overcome these obstacles and encourage more cat visits, here are some resources and tools to help reduce travel stress and create a more welcoming, lower stress clinic environment for cats.

BOOST FELINE VISITS

By taking a few simple steps to reduce the stress of veterinary visits, clinics can go a long way to boost the f	requency of
feline visits. More visits increases the chance that diseases will be caught earlier, ultimately improving the c	quality and
length of your feline patients' lives. Here are a few ideas to help you get started.	



Offer loaner carriers with Feliway™ wipes to help owners transport cats safely and with less stress.



Provide staff training in cathealthy handling techniques, such as using a towel, rather than scruffing to restrain the cat.



Communicate your clinic's dedication to cats by displaying cat art, client photographs of cats and videos designed to start a conversation about preventive heathcare.



Minimize visual contact with dogs by creating a cat-only waiting room or having barriers to separate cats from dogs.



While a quiet, cat-only hospital ward is ideal, cats should at least be housed in cages that don't face other cages of the treatment area, and provided with a place to hide inside each enclosure.



Provide benches or raised counters in the waiting room so that carriers can be placed above floor level. Provide towels to cover carriers to reduce eye contact between cats and other pets.

TOOLS



Cat Healthy logo

Proudly display the Cat Healthy logo at your clinic to let pet owners know you are serious about cat-healthy care.







12 tips to make your clinic Cat Healthy

Take this simple quiz to help you assess and improve the cathealthiness of your clinic – from reception to examination to follow up.







Cats only seating area signage

Providing a cat-healthy seating area and entrances away from dogs is a great start toward improving cat comfort.

Download the sign for use in your clinic.









FOR CLINICS - FOR OWNERS - WHY CAT HEALTHY -

DID YOU KNOW?

Cats are fastidious creatures, spending about one-third of their waking hours cleaning themselves.



It's estimated that 57.6% of cats are obese.¹

Cats may scratch at furniture as a marking behaviour. By providing scratching posts and trimming nails every few weeks, owners can keep cats satisfied and furniture intact.



Cats generally lack the enzyme to digest dairy products, so feeding them milk or cream can make them sick.

36%

There are 9.5 million cats in 36% of Canadian households. 1



Cats are obligate carnivores.

They need protein from meat and fish and will become ill on a vegetarian diet.

Polydactyl cats have more than the average number of toes.

According to the Guinness World Records, the cat with the most toes was from Canada, and had 28 toes.



Cats lack the gene to taste sweetness.

When cats rub their heads against their owners, a behaviour called "head bunting", they are actually marking them with scent glands on their cheeks.

Association for pet obesity prevention Available at http://www.petobesityprevention.org Accessed April 13 2014

²Statistics Canada 2006 Census

³Guinness World Records Available at http://www.guinnessworldrecords.com/world-records/most-toes-on-a-cat Accessed April 13, 2014

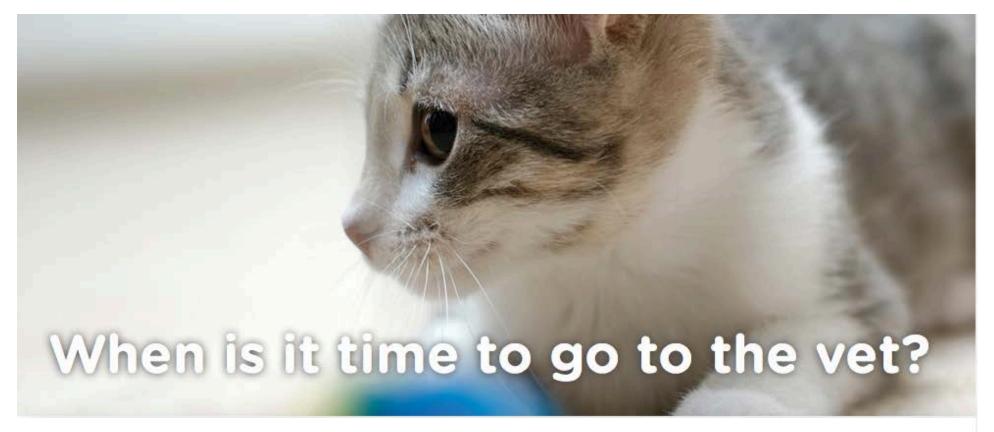
CAT HEALTHY FOR OWNERS

It's always better – and less expensive – to prevent your cat from developing health problems than it is to treat them. And from kitty's purrspective, it is a whole lot nicer to not get sick in the first place! Now, you have access to a list of preventive healthcare guidelines developed – just for you- by Canada's veterinary feline specialists. Your veterinarian's recommendations may vary slightly, depending on your cat's individual risks.

PREVENTIVE HEALTHCARE PROTOCOLS

To download simplified preventive healthcare guidelines, click on your cat's life stage below





Cats often hide the signs of pain and illness. By the time you notice something is wrong, the problem may be more advanced and harder to treat. That's why it's important for you to take your cat to the veterinarian if you notice any of these subtle signs of illness.

- House soiling behaviour (eliminating outside the litter box)
- (02) Changes in social interactions
- (03) Changes in activity
- 04) Changes in sleep habits
- Changes in food and water consumption

- 06) Unexplained weight loss or gain
- (07) Changes in grooming
- 08 Changes in behaviour
- (09) Changes in vocalization
- (10) Bad breath



<u>Cat Healthy YouTube: www.youtube.com/channel/UC_RHGrejSChHRv5qwtuBSjw</u>

YOUR CAT AND THE VETERINARIAN

Some 80% of owners assume their cats are not only self-sufficient, but in excellent health.1

And 33% of owners only take their pet to the veterinarian if it's sick.² Which is too bad because regular veterinarian care can help prevent many health problems from happening in the first place. And other health conditions can be caught early, when they may be easier and less expensive to treat as well as preventing suffering for your cat.



Prevent painful dental disease

Regular dental care help can keep your cat's mouth healthy and pain free and prevent inflammation in other parts of their bodies.



Avoid serious diseases

Even indoor-only cats can be at risk for dangerous disease. Regular vaccinations can help keep them protected.



Eliminate behaviour problems

Too many cats are surrendered to shelters because of behaviour problems such as not using the litter box, which may be easy to fix.



Prevent parasites

Internal and external parasites can make cats miserable, and may pose risks for family members. With regular treatment, you can help prevent fleas, ticks, mites, heartworms and intestinal parasites from harming your cat.



Avoid weight problems

Your veterinarian can counsel you on the right diet and amount to feed to help protect your cat from obesity and health problems associated with that condition, including diabetes and liver disease.



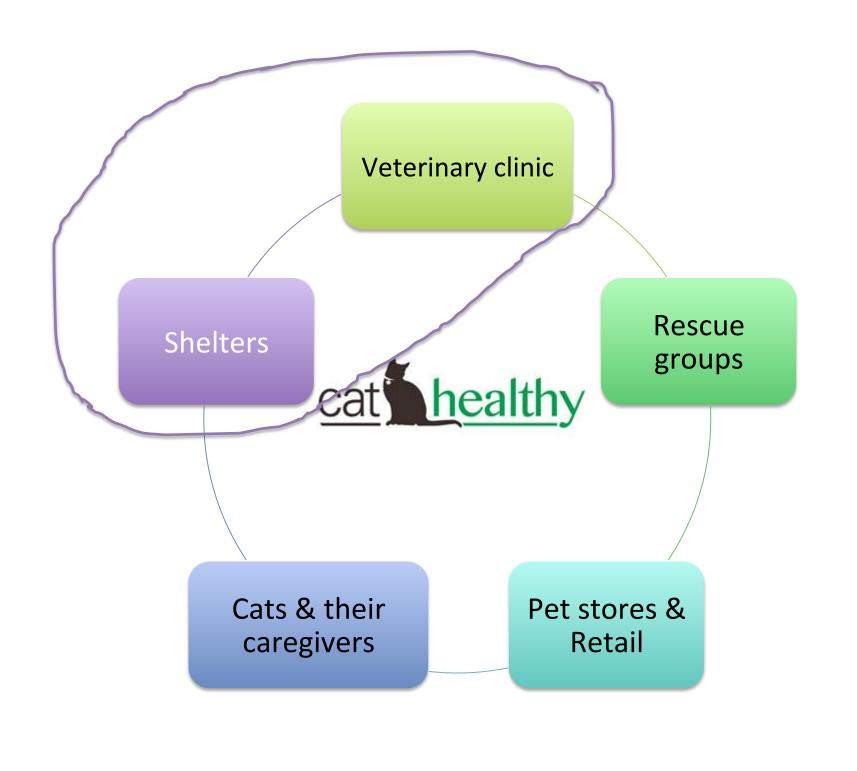
Help promote longevity

As cats age, kidney disease, hyperthyroidism and other diseases are more common. Regular exams can help your veterinarian identify these conditions early so that progression can be slowed or managed.

GET THE MOST OF EACH VETERINARY VISIT

Because you play an active role in your cat's health care, it's important to tell your veterinarian about anything that may affect

- Have you noticed any changes in your cat since your last visit?
- Does your cat go outside or have contact with any other animals?
- Does your cat go to boarding facilities or to the groomer?
- · Are there any other pets in the home?
- Are there people with compromised immune systems in the home?
- Have you noticed any changes in your cat's behaviour or temperament?
- Has your cat urinated or defecated somewhere in the house other than in the litter box?
- Have you noticed any changes in your cat's appetite or weight?
- Have you noticed any changes in your cat's water consumption?
- Does your cat have trouble chewing or have bad breath?
- · Have you noticed any changes in your cat's activity level?
- Does your cat vocalize more?



WELCOME TO CAT PARENTHOOD



WELCOME TO CAT PARENTHOOD:

As part of our continued efforts to raise the awareness of cat care in Canada, we teamed up with Royal Canin and created a checklist that is currently being used across shelters. The checklist is a great tool for new cat owners to educate themselves on giving their new family member a better and healthier life. You can download a free copy here.





/ETERINARIAN	AT'S NAME	
OATE /ETERINARIAN		
OATE /ETERINARIAN	DOPTED FROM	
VETERINARIAN		
VETERINARIAN		
VETERINARIAN		
/ETERINARIAN		
VETERINARIAN		
VETERINARIAN		
	ATE	
NOTES		
	ETERINARIAN	
NOTES		_
NOTES		
NOTES		





cat healthy^{15t} registered trademark of Cat Healthy. © ROYAL CANIN SAS 2015. All rights reserved.

Feline Examination Checklist

Preventive health care is essential to ensure a long, healthy life for your cat. While seemingly independent and self-sufficient, cats often mask signs of sickness. Take your cat to a veterinarian in your area for a comprehensive physical examination to establish a relationship early. Be sure to visit cathealthy.ca to learn how to keep your cat healthy and happy for years to come!

Kittens up to 16 weeks of age

Vaccination	4-6 Weeks	8-9 Weeks	12 Weeks	16 Weeks	1 Year Later	Comment
FVRCP	O	O -BATE	O-DAYE	O -EIATE	O -DATE	
Rabies	O	O -DATE	O-mare	O	0	
FeLV	O	O	0	O	O	

Adult cats and kittens over 16 weeks

Vaccination	First Vaccine	3-4 Weeks Later	1 Year Later	Comment
FVRCP	O	O	O	
Rabies	O	O	O	
FeLV	O -DATE	O	O -DATE	

Deworming: Three Doses Given Two Weeks Apart	1	2	3	Name of Product(s) Used and Dates
A broad-spectrum parasiticide should be used once a month after the first three doses. Heartworm prevention should be given in areas where dogs get heartworm.	0	0	0	

Testing for FeLV and FIV? YES	RESULTS	NO (
Surgical sterilization (spayed or neutered)?	YES O NO UNI	KNOWN
Identification: Microchip	Tattoo ()	



WELCOME TO CAT PARENTHOOD

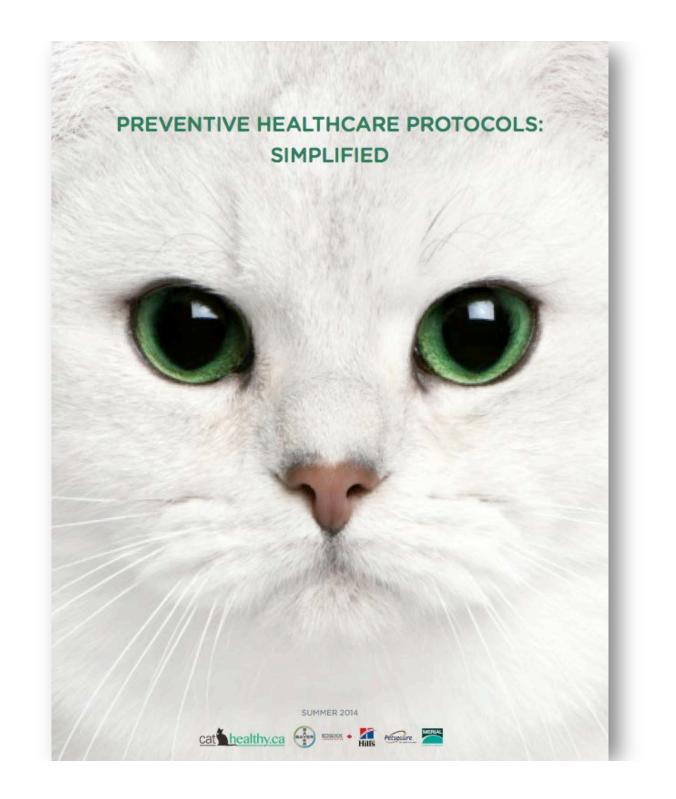
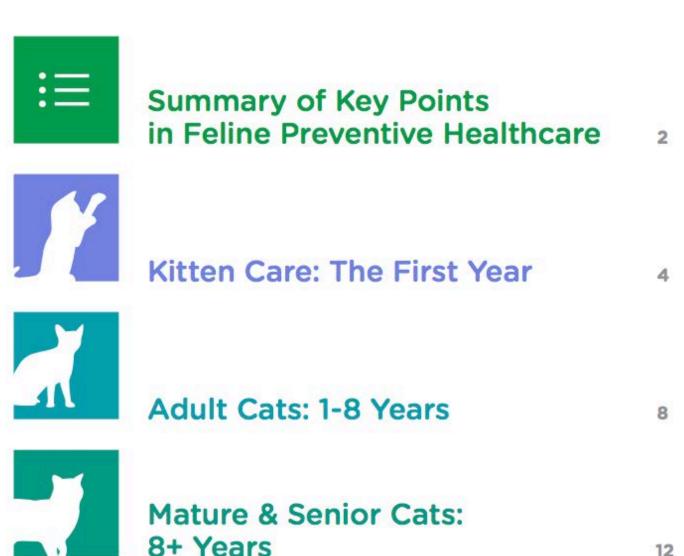


TABLE OF CONTENTS:





Summary of Key Points in Feline Preventive Healthcare

- Annual and Semiannual Visits
- Nutritional Assessment
- Behaviour and Environmental Assessments
- Pain Assessment
- Disease Screening

- Vaccinations
- Parasite Control
- Surgical Sterilization
- FeLV and FIV Testing
- Dental Care
- Nail Care
- Permanent
 Identification



BEFORE YOU GO

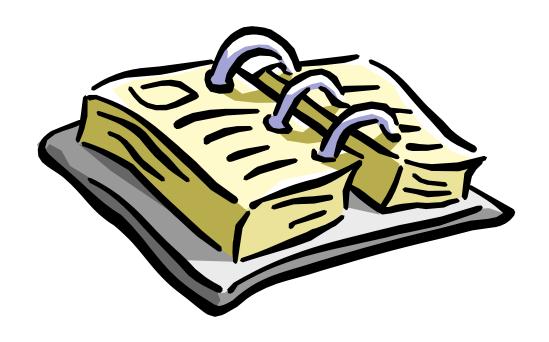
Here are some steps you can take to help make the trip to the veterinarian less stressful for you and your cat:

- · Always transport your cat in a cat carrier
- · Each cat should have it's own carrier
- The best carriers open from the top or front, and can be taken apart so that the cat can remain in the bottom for most of the exam if they wish
- Help the cat become accustomed to the carrier by leaving it open in the house and placing toys, treats or food inside
- Place a soft, clean towel or familiar bedding in the bottom of the carrier

- Spray the carrier with facial pheromone (e.g., FeliwayTM)
 10-15 minutes before traveling
- Secure the carrier in the foot well of the back seat of the car to avoid movement during transportation and airbag injuries
- · When carrying the carrier, keep it stable and horizontal
- Place a towel over the top of the carrier to help calm your cat and prevent other pets in the waiting room from making direct eye contact

Wellness Programs

 The financial backbone of a general practice is its recallable services.



Wellness Programs

- Life stage:
 - First year of life
 - Mature cat
- Vaccination & testing
- Tiered dental ATP
- Weight loss program

- Condition:
 - Diabetic continuing care
 - Chronic kidney disease monitoring
 - Hyperthyroid monitoring



Tailoring healthcare to life stage



Creating a culture of preventive care

cul·ture noun:
the beliefs, customs,
arts, etc., of a particular society,
group, place, or time

• The act of developing the
intellectual and moral faculties
esp. by education

Customs

Actions

Attitudes

Beliefs

Missed Opportunities



Household pet inventory



There's a window of opportunity

83% of owners take cat to vet within 1st year





Make the first visit count

- Convey value
 - Explain preventive care
 - Describe what's going to happen
- Schedule the next visit before the owner leaves



Value is Perceived Worth



Consider a first year of life preventive care program

Lay foundation for long term relationship



Set standard for quality health care



Focus entire team on preventive care

Objectives of kitten program

- Agreed upon protocols
- Deliver consistent message
- Grow client confidence, relationship and compliance
- Ensure all preventive care needs are addressed
- Build a firm foundation
- Engage client in ongoing preventive care and bond them to your practice



Educate

- Re the importance of preventive care:
 - Reduces disease
 - Early disease



Communicate VALUE

First Year of Life

- Behaviour, environment
 - Carrier comfort and travel
 - Litter box/toileting
- Nutrition
- Oral health

- Vaccines
- Retrovirus testing
- Parasite control
- Surgical sterilization
- Preschedule and prepay all appointments

First Year of Life



Initial physical examination, nutritional and behavioural

consultation

• FVRCP: 1, 2, 3 (+/- 4 prn) + exam

FeLV: 1 and 2 and FeLV/FIV test

Rabies: as regionally appropriate

Preschedule and prepay all appointments

Could include 9 month nutrition check and year one exam and boosters

Broad spectrum dewormer 3,5,7,9 weeks, then monthly

- (+/- > 6 months)
- Tattoo, neutering and microchip
- +/- repeat FeLV/FIV test

Confirm any positive results!



First Year of Life program

- Food
- Tooth care
- Flea comb
- Catnip toy
- Appropriate treats
- Current industry promotions, seasonal items

INFORMATION

- Clinic brochure
- Emergency contact info
- Training in general, carrier and travel



01	The healthcare needs of cats
02	Travel to the veterinary clinic: Not 5 friendly!
03	Questions to ask: The media 06
04	Nutritional assessment
05	Comprehensive physical examination10
06	Vaccinations11
07	Parasite control14
80	Retrovirus testing15
09	Surgical sterilization: Earlier is better
10	Dentistry19
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
15	Home care, compliance, and follow-up
16	Identification and licensing

Educate re nutrition

•

treats

• Feeding devices, toys, stimulation



Educate re nutrition

- Feeding for life stage: needs change
 - Growing kittens
 - Effects of sterilization
 - Adult declining Metabolic Energy Requirement (MER)
 - Over 12 years needs are more similar to kitten









PREVENTIVE HEALTHCARE PROTOCOLS: SIMPLIFIED

- Annual and semi-annual visits
 - Recalls focus on comprehensive physical examination and consultation

not vaccinations





"It's time for Fluffy's comprehensive physical examination and consultation regarding nutrition and behaviour. Cats are good at hiding health problems. This appointment is an opportunity to find things that might otherwise go undetected and become more difficult and costly to treat later on.

During the appointment, we'll review Fluffy's vaccination needs and Dr. ____ will make recommendations for flea and internal parasite control based on her individual needs. In addition, blood and urine tests might be recommended for health monitoring and early disease detection."

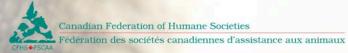




Table 19: Reasons for euthanasia at shelters, rescues and TNR

Reason for Euthanasia	Cats	Kittens	Dogs	Puppies
Illness/ change in status	88%	82%	79%	75%
	N=107	N=94	N=86	N=72
Animal behaviour	67%	47%	91%	19%
	N=82	N=57	N=99	N=18
Lack of space	29%	24%	9%	5%
	N=35	N=28	N=10	N=5
Affordability of medical treatment	22%	17%	16%	13%
	N=2	N=19	N=17	N=12

A Comprehensive Report on the Cat Overpopulation Crisis



AAFP and ISFM Guidelines for Diagnosing and Solvin House-Soiling Behavior i

Rationale: These Guidelines have been developed by the American Practitioners (AAFP) and the International Society of Feline Medici for veterinary practitioners who want to better understand and ma clinical condition of house-soiling in their feline patients. The Guid straightforward, practical solutions that, in most cases, will help v and cat owners prevent, manage or entirely remediate feline house Evidence base: The Guidelines include scientifically documented in

is available. However, because research is often lacking, some recommen

accumulated clinical experience of the authors.

The most important question to ask your clients is: 'Has your cat urinated or defecated somewhere in the house other than in the litter box?'

Comprehensive physical examination

Frequency:

- Kitten: 6-9 weeks, 9-12 weeks, 12-16 weeks, surgical sterilization
- Annually
- After 8 years, twice a year

Physical Exam

1) Attitude/Appearance N A NE BCS/ Muscle Condition	2) Oral Cavity/Teeth N A NE Breath odour	3) Mucous Membranes N A NE Colour CRT SEC Moisture	4) Integumentary N A NE Skin tent: Present Absent
5) Eyes	6) Ears	7) Cardiovascular	8) Respiratory
9) Gastrointestinal	10) Musculoskeletal	11) Lymph Nodes	12) Urogenital
13) Nervous System	14) Pain	BP Cuff Size	Limb
T PR	HR RR	Wt	% wt Δ
Frequency AM PM Free choice # Meals Amount Diet			
□ Indoors □ Outdoors □ Contact with others ■ N = Normal A = Abnormal NE = Not Examined			
Other observations/findings			

Establish rapport

What are your concerns today?



Comprehensive physical examination

- Watch interaction between cat and client
- Observe how cat moves around consultation room

• TALK to cat and client during exam^{hysical Exam}

Respectful handling, use catellis name and seximent Present Absent

Reward with treats

and Science in a constitution of the constitut	ame a	nd se	Absent Absent
5) Eyes	6) Ears	7) Cardiovascular	8) Respiratory
9) Gastrointestinal N A NE		11) Lymph Nodes	12) Urogenital
13) Nervous System	14) Pain	BP Cuff Size	Limb
T PR	HR RR	Wt	% wt Δ
Frequency AM PM Free choice # Meals Amount			
Diet Treats Supplements			
□ Indoors □ Outdoors □ Contact with others ■ N = Normal A = Abnormal NE = Not Examined			
Other observations/findings			



Kitten Care: The First Year

Healthcare Service	Kitten Care: The First Year
Purpose	While vaccination, deworming and sterilization are important procedures for kittens, the first year is an opportunity to educate and emphasize the importance of preventive healthcare and to establish a lifetime of healthy habits. Discuss weight management, home dental care, nail care, observing behaviour, parasite control and the importance of regular veterinary exams as well as the benefits of pet insurance.
Physical exam and consultation	Perform 2 or more times in the first 6 months of life
Pain assessment and management	Evaluate for the presence of pain and the need for analgesia at every exam

Pain Assessment and Management

- Recognizing potential signs of pain
- Questions to ask client
- Musculoskeletal pain
- Multimodal approach including environmental modification and nutritional therapies

Identifying Signs of Pain

The clinical signs of chronic pain may be even more subtle as the patient has learned to "cope" with the pain, often adapting alternative strategies for pursuit of daily activities. Changes in temperament, decreased interaction, grooming, mobility, or "just slowing down" may be interpreted by the owner as being simply due to aging, but they may indicate pain and warrant investigation.



A common reason for chronic pain in cats is degenerative musculoskeletal disease (e.g., arthritis). Questions that assess mobility can be a useful tool, such as:

- · Is your cat less willing to jump up or down than previously?
- . Is your cat unable to jump as high as previously?
- Does your cat need to use a chair or other object to reach the same height as previously?
- Does your cat show hesitation when trying to jump up on or down from objects?
- Does your cat play with other animals or toys less than previously?
- Does your cat have difficulty getting into or out of the litter box?
- Have there been changes in your cat's litter box use?
 (e.g., elimination near the litter box)
- Does your cat show signs of being stiff when he/she walks or runs?
- Does your cat have stiffness after waking up that improves with movement?
- Does your cat have difficulty going up and/or down the stairs?
- . Is your cat lame when walking or running?

While there is a lack of validated pain scoring tools for cats, two that have been developed are undergoing evaluation and can be recommended for the general practitioner. These very useful tools are:

Colorado State University Feline Acute Pain scale: Cathealthy.ca/csupainscale

Feline Musculoskeletal Pain Index (North Carolina State University): Cathealthy.ca/ncsupainindex

Various analgesic drugs and protocols are available for cats. For management of acute and peri-operative pain, opioids form the cornerstone of treatment. Combining opioids with other treatments, such as non-steroidal anti-inflammatory drugs (NSAIDs) and regional anesthesia, improves analgesic efficacy.

In contrast, for chronic degenerative musculoskeletal disease, NSAIDs form the basis of management. Guidelines for the long-term use of NSAIDs in cats have been published and should be consulted. This document includes a useful brochure designed for client education:

 AAFP/ISFM Consensus Guidelines on the Long Term Use of NSAIDs in Cats: http://www.catvets.com/guidelines/ nyartice-quidelines/psaids-in-cats

Other modalities, while not validated, are often incorporated, including:

- Disease modifying agents (e.g., glucosamine/chondroitin, polysulfated glycosaminoglycans)
- · Environmental modification
- Therapeutic diets
- · Physiotherapy
- · Cold laser therapy
- Acupuncture

RESOURCES

International Veterinary Academy of Pain Management: Cathealthy.ca/ivapm

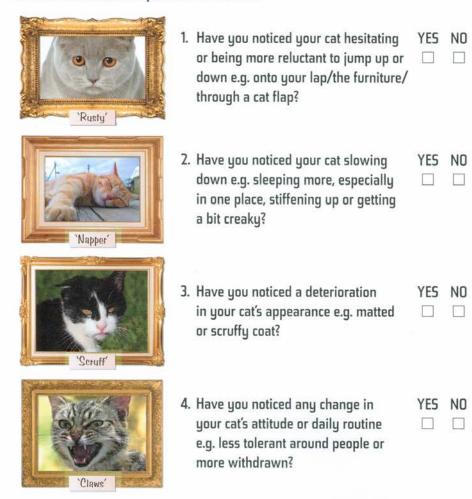
AAHA/AAFP Pain Management Guidelines for Dogs & Cats: Cathealthy.ca/catvetspainmanagement

Spot the signs: A Report into Chronic Pain in Cats: Cathealthy.ca/spotcatpain



Be on the lookout for arthritis.

Here are four simple questions that have been designed to help you and your vet recognise subtle changes in your cat's behaviour that could indicate painful arthritis.



You can also use this checklist to check your cat's progress on treatment.



HAVE YOU SEEN ME???



Schedule the next visit before the client leaves

Still Missing!



CHARLIE

Missing since Sunday, September 16th
Charlie has been sighted by several people on
Fenwick and Fawcett Crescent. Please help us find
her by checking any potential sheltered hiding areas
on your property Ie: under decks, steps, sheds.
Female, long haired, black/grey with white paws and white markings
on chest and storagely. Wearing a thin collar.

PLEASE CALL Kelley or Len if you see her

Help cats live longer, healthier lives by creating a culture of life-long, preventive healthcare.



Adult Cats: 1-8 Years

Healthcare Service	Adult Cats: 1-8 Years
Purpose	During the young adult years, emphasize the importance of weight management, dental care and other preventive healthcare measures. Behaviour counseling, including proper litter box management, should continue to be a part of every veterinary visit.
Physical exam and consultation	Perform at least once a year
Pain assessment and managemen	Evaluate for the presence of pain and the need for analgesia at every exam

Pledge Against Cat Pain

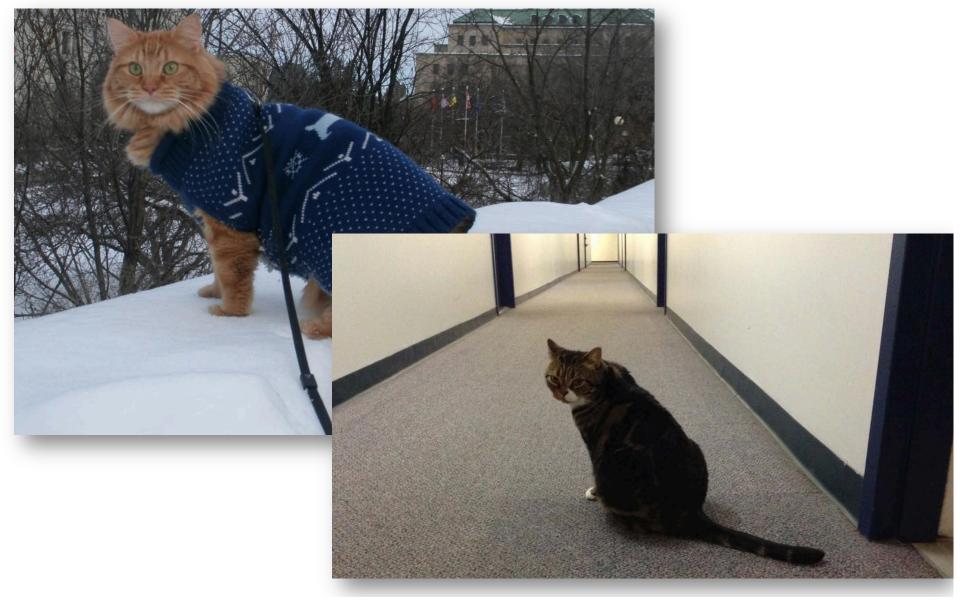
Update risk assessment

 Does ____ go outside or have contact with other animals?



Who else lives with you and ____?

Myth of the indoor cat



Myth of the indoor cat

- Access to outdoors?
- Travel?
- Boarding?



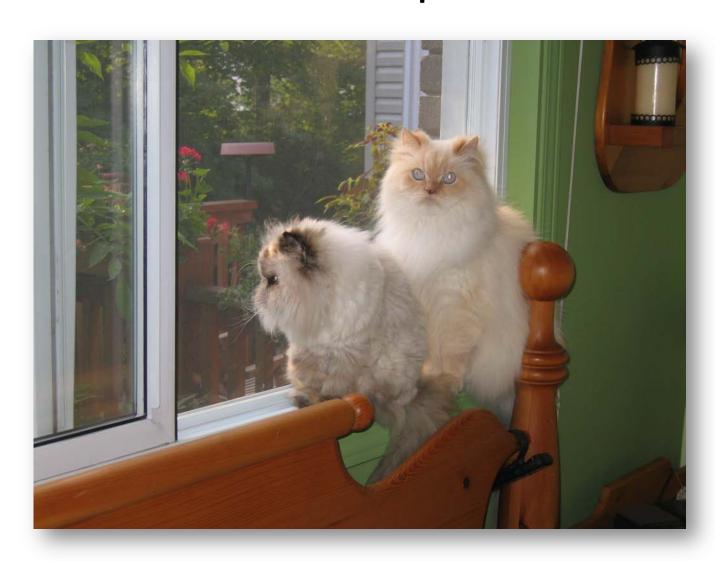


Mature & Senior Cats: 8+ Years

Healthcare Service	Mature & Senior Cats: 8+ Years
Purpose	Screening for common diseases such as hyperthyroidism, chronic kidney disease, arthritis, and diabetes is very important in this age group. All older cats should be carefully assessed for signs of pain on a routine basis.
	Because immunosenescence occurs with age and can blunt established immunity, vaccines should not be allowed to lapse in older cats.
Physical exam and consultation	Perform at least twice yearly
Pain assessment and managen Pledge A	Evaluate for the presence of pain and the need for managesia at every exam

01	The healthcare needs of cats
02	Travel to the veterinary clinic: Not so cat friendly! 05
03	Questions to ask: The medical history06
04	Nutritional assessment
05	Comprehensive physical examination
06	Vaccinations11
07	Parasite control
80	Retrovirus testing15
09	Surgical sterilization: Earlier is better17
10	Dentistry19
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
15	Home care, compliance, and follow-up
16	Identification and licensing

Can we justify routine parasite control for indoor pets?



Should we use parasite control to try to increase cat preventive care visits?

Am. J. Trop. Med. Hyg., 79(4), 2008, pp. 552-557 Copyright © 2008 by The American Society of Tropical Medicine and Hygiene

National Seroprevalence and Risk Factors for Zoonotic Toxocara spp. Infection

Kimberly Y. Won,* Deanna Kruszon-Moran, Peter M. Schantz, and Jeffrey L. Jones

Division of Parasitic Diseases, National Center for Zoonotic, Vectorborne, and Enteric Diseases, CCID, Centers for Disease Control and Prevention, Atlanta, Georgia; Division of Health and Nutrition Examination Statistics, National Center for Health Statistics, Centers for Disease Control and Prevention, Hyattsville, Maryland

Abstract. To estimate the prevalence of *Toxocara* spp. infection in a representative sample of the United States population ≥ 6 years of age, sera from participants in the Third National Health and Nutrition Examination Survey (1988–1994) were tested for antibodies to *Toxocara*. Among the 30,930 persons selected for the survey, 82% (N = 25,733) were interviewed, and 91% (N = 23,527) of those interviewed underwent physical examination of which 87% (N = 20,395) were tested. The age adjusted *Toxocara* seroprevalence was 13.9% (95% confidence intervals [CI] 12.5, 15.3), and was higher in non-Hispanic blacks (21.2%) than non-Hispanic whites (12%) or Mexican Americans (10.7%; P < 0.001). Increased *Toxocara* seropositivity was associated with head of household level of education (low versus high) (odds ratio [OR]: 2.2; CI: 1.8, 2.8), poverty (OR: 1.5; CI: 1.3, 1.8), elevated blood lead concentrations (OR: 1.4; CI: 1.1, 1.9), and dog ownership (OR: 1.2; CI: 1.1, 1.4). *Toxocara* infection is widespread and associated with specific risk groups.

14% of Americans seropositive for Toxocara Prevent soil contamination by pet feces, preventive deworming of puppies & kittens



Evaluation of topical application of 10% imidacloprid–1% moxidectin to prevent *Bartonella henselae* transmission from cat fleas

Christina A. Bradbury, DVM, and Michael R. Lappin, DVM, PhD, DACVIM

Lappin et al. Parasites & Vectors 2013, **6**:26 http://www.parasitesandvectors.com/content/6/1/26



RESEARCH

Open Access

A flea and tick collar containing 10% imidacloprid and 4.5% flumethrin prevents flea transmission of *Bartonella henselae* in cats

Michael R Lappin^{1*}, Wendell L Davis², Jennifer R Hawley¹, Melissa Brewer¹, Arianne Morris¹ and Dorothee Stanneck³

Cat scratch disease

Indoor pests transmit diseases

- House fly & cockroach → Toxocara
- Mosquito → heartworm
- Flea → Bartonella, M. haemofelis, etc.



Parasite control recommendations

Kittens

- 2 to 4 fecal exams in 1st
 year
- Deworm at least 3 times initially, then monthly until 6 months old or older



Parasite control recommendations



Adult cats

- Fecal exam at least once/year
- Broad spectrum product year round or seasonal

Why do fecal examinations?

- Monitor compliance of prophylactic treatment
- Diagnosis of parasites not treated with broad spectrum products



- 2-5g of feces ideal (1g = ½ inch cube)
- Fecal centifugation floatation using zinc sulfate or modified Sheather's sugar solution

Disease screening



Conduct blood tests, urinalyses, blood pressure measurement and fundic examination, as needed according to health status Conduct blood tests, urinalyses, blood pressure measurement and fundic examination if cat is ill or injured

Recommended at least annually:

- Blood pressure measurement
- Fundic examination
- Serum chemistry panel, complete blood count, T4
- Urinalysis (+/- culture, urine protein: creatinine ratio as needed)
- Survey chest and abdominal radiographs

Life stage preventive care & disease screening

AGE	Examination & Consultation (incl. behaviour, nutrition)	FeLV and FIV Tests	Blood Tests	Urinalysis	Blood Pressure
Birth to 6 mo	2 or more	At least once	+/-	+/-	+/-
6+ mo to 2 yrs	1	+/-	+/-	+/-	+/-
2+ to 6 yrs	1	+/-	+/-	+/-	+/-
6+ to 10 yrs	1-2	+/-	1	1	1
10+ to 14 yrs	2	+/-	1-2	1-2	1-2
14+ yrs	2	+/-	2	2	2

+/-: usually not needed at this age unless cat is ill or has been in an accident

1: recommended once a year 1-2: recommended 1-2/year 2: recommended twice a year







An ounce of prevention is worth a pound of cure.



A N N U A L

Cat Wellness

Examination



Am I as old as you are?

LIFE-STAGE	AGE OF CAT	HUMAN EQUIVALENT
Birth to 6 months	0 month 2–3 months 4 months 6 months	0–6 months 9–12 months 2–3 years 12 years
6 + months		
to 2 years	6+ months 12 months 18 months 2 years	12+ years 15 years 21 years 24 years
2 + years to 6 years	2+ years 4 6	24+ years 32 40
6 + years to 10 years	6+ years 8 10	40+ years 48 56
10 + years to 14 years	10 + years 12 14	56+ years 64 72
14+ years	14+ years 16 18 20 21	72+ years 80 88 96 100

Modified from the WellCat log of the Feline Advisory Bureau: http://www.fabcats.org/publications/index.php



ROUTINE HEALTH SCREENING Findings in apparently healthy middle-aged and old cats

Study rationale: Veterinary practitioners often perform geriatric health screening in cats.

Unfortunately, scientific information regarding clinical and laboratory abnormalities and normal blood pressure values in elderly cats is scarce. This prospective study evaluated routine health screening tests in apparently healthy middle-aged and old cats.

Protocol: One hundred cats of 6 years and older underwent blood pressure measurement, physical examination, blood and urine analysis, indirect fundoscopy and bilateral Schirmer tear tests.

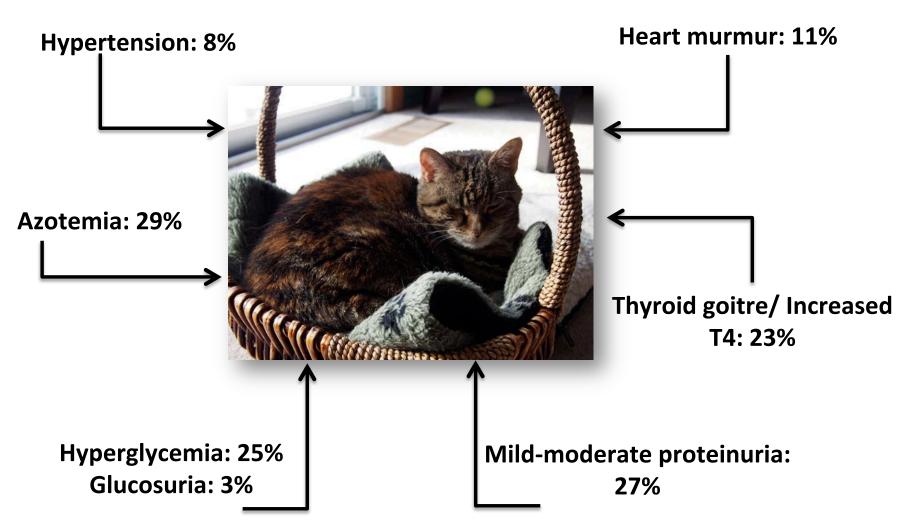
Findings: Mean systolic blood pressure (SBP) was 133.6 ± 21.5 mmHg. Increased SBP (>160 mmHg) was observed in eight cats, submandibular lymphadenopathy in 32, gingivitis in 72, heart murmur in 11, thyroid goitre in 20, increased creatinine in 29, hyperglycaemia in 25, increased total thyroxine in three, feline immunodeficiency virus positivity in 14, crystalluria in 41, borderline proteinuria in 25 and overt proteinuria in two. Mean tear production was very similar for both eyes and none of the cats had ocular lesions secondary to hypertension.

Clinical significance: Old cats (>10 years) had significantly higher SBP, heart rate, murmur frequency, thrombocyte count, urine protein:creatinine ratio and serum urea and bilirubin concentrations, and significantly lower body condition score, haematocrit, albumin and total calcium concentrations than middle-aged cats (6–10 years). The common occurrence of physical examination and laboratory abnormalities in apparently healthy old cats underlines the need for regular health checks and the development of age-dependent laboratory reference intervals.

Study rationale

 Veterinary practitioners often perform geriatric health screening in cats. Unfortunately, scientific information regarding clinical and laboratory abnormalities and normal blood pressure values in elderly cats is scarce. This prospective study evaluated routine health screening tests in apparently healthy middle-aged and old cats.

Common findings on routine screening of apparently healthy senior cats



Paepe, J Feline Med Surg 2013

Key points

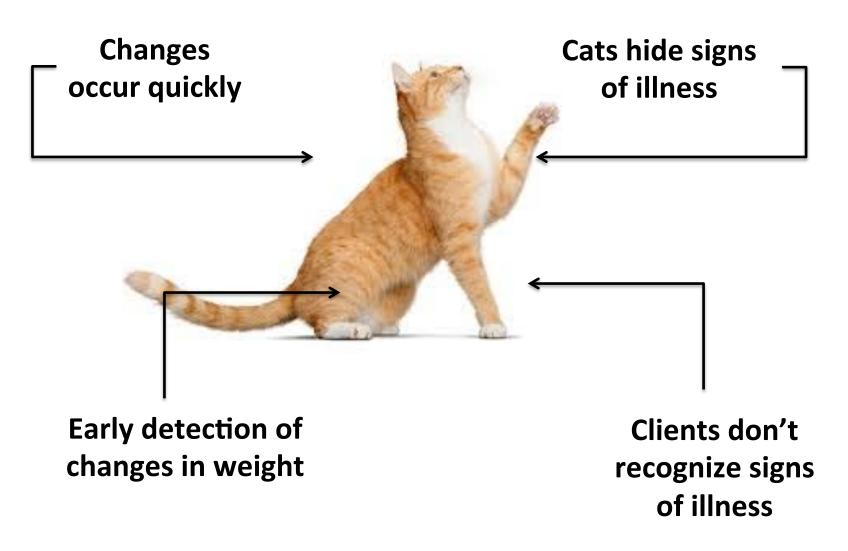
- This study underscores the need for, and value of, regular health checks of apparently healthy cats to improve early disease detection and allow early therapeutic intervention.
- Screening should involve a comprehensive history and thorough physical examination, including BCS assessment and oral inspection.
- FIV/FeLV testing is recommended in all age cats with outdoor access
- Monitor the BP of cats that are ≥10 years of age.
- To improve the interpretation, encourage laboratories to develop age-dependent RIs for certain parameters.
- Further research is warranted to examine the clinical significance of proteinuria in the borderline range.

That's 13,527,000 cats!

- Average life expectancy is 14-16 years
 - 1983, 24% of cats > 6 years of age
 - 1996, 47% of cats > 6 years of age
- 2007: 81 million cats in USA
 - 16.7% of cats \geq 11 years of age (AVMA)
- Strong bond between people and older cats



Preventive care visits every 6 months



Weight loss as an early sign

- Cancer, renal disease, hyperthyroidism
 - Weight loss began 2.5 years before death
- Other diseases
 - Weight loss began 3.75 years before death



Cupp, Compendium 2004, Freeman JVIM 2015

Effects of Changes in Body Composition On Aging

Study results:

- Every 100g loss of weight increased the risk of death by 6.4%
- Every 100g loss of lean body mass increased the risk of death by 20%
- Every 100g loss of body fat increased the risk of death by 40%

Cupp CJ. The Role of Nutritional Interventions in the Longevity and Maintenance of Long-Term Health in Aging Cats. Intern J Appl Res Vet Med 2008

Mature & senior cat preventive care programs

	Mature cat [8-11 years]	Senior cat [12-14 years +]
Consultation & comprehensive physical examination	Once per year	Every 6 months
Blood pressure assessment	Once per year	Every 6 months
Serum chemistries, CBC, total T4, UA	Once per year	Every 6 months
Survey radiographs	-	Once per year



Vaccination programs

- Resources: AAFP, ABCD and WSAVA
 - www.catvets.com => Guidelines
 - Vaccination Advisory Panel Report
 - Feline Retrovirus Management Guidelines
 - www.abcd-vets.org => Guidelines



The European Advisory Board on Cat Diseases

— www.wsava.org => Guidelines





2013 AAFP Feline Vaccination **Advisory Panel Report**



Rationale: This Report was developed by the Feline Vaccination Advisory Panel of the American Association of Feline Practitioners (AAFP) to provide practical recommendations to help clinicians select appropriate vaccination schedules for their feline patients based on risk assessment. The recommendations rely on published data as much as possible, as well as consensus of a multidisciplinary panel of experts in immunology, infectious disease, internal medicine and clinical practice.

Introduction

The AAFP produced the first organizationdriven vaccination guidelines in 1998. These were updated in 2000 and again in 2006.1 Each version has offered a comprehensive review of the literature and has provided recommendations for vaccine protocols based on known science along with some extrapolation between studies and between species when feline studies were not available. This Report has used the same criteria.

The practicing veterinarian is in the best position to determine how to put these Guidelines into practice for an individual patient. The veterinarian should undertake a clinical risk/benefit assessment for each animal and discuss recommended vaccination schedules with the owner so that they can make an informed choice. The assessment should include discussion on the likelihood of exposure, the health and lifestyle of the animal, and the risks related to vaccination.

The Advisory Panel recognizes that situations differ in different countries, and that every country will have slightly different issues and priorities; thus these Guidelines will not necessarily be applicable to every country and the practitioner must interpret accordingly.

The three international panels that have produced feline vaccination guidelines (AAFP, World Small Animal Veterinary Association and European Advisory Board on Cat Diseases) recommend that an annual health examination be performed irrespective

CONTENTS	page			
♣ Introduction	785			
❖ Vaccination principles	786			
General information on types				
of feline vaccines	787			
Risk/benefit assessment	788			
❖ Vaccination recommendations				
for specific situations				
- household pet cats	789			
- shelter-housed cats	791			
- cats in trap-neuter-return programs	793			
- cats in breeding catteries	793			
♣ Vaccine adverse events	794			
♣ Pre-vaccination testing	795			
♣ Injectable vaccine administration				
site recommendations	798			
Legal considerations associated				
with vaccination	799			
Abbreviations used in the Report and				
Disease Information Fact Sheets	799			
Appendix 1: Frequently asked questions				
- General FAQs	802			
- Shelter FAQs	803			
- Trap-neuter-return FAQs	804			
- Adverse event FAQs	805			
♣ Appendix 2: Vaccinations for Your Cat				
- Pet Owner Guide	807			

of whether vaccines are administered. While the optimal frequency of health examinations for cats is

See page 799 for list of Disease Information

Fact Sheets and other resources available

nline as Supplementary Files.

unknown, it is generally





sement of these guidelines by the International Society of Feline Medicine (ISFM).



Margie A Scherk DVM Dip ABVP (Feline Practice) Advisory Panel Chair* catsINK, Vancouver, BC, V5N 4Z4, Canada

Richard B Ford DVM MS Dip ACVIM DACVPM (Hon)

of Veterinary Medicine, North Carolina State University, Raleigh, NC 27607, USA Rosalind M Gaskell

BVSc PhD MRCVS Small Animal Infectious Diseases Group, University of Liverpool, Wirral, CH64 7TE, UK

> Katrin Hartmann Dr Med Vet Dr Med Vet Habil Dip ECVIM-CA

Medizinische Kleintierklinik Ludwig-Maximilians-Universität. Munich 80539, Germany

Kate F Hurley DVM MPVM

Koret Shelter Medicine Program UC Davis Center for Companion Animal Health, School of Veterinary Medicine, University of California, Davis, CA 95616, USA

Michael R Lappin

DVM PhD Dip ACVIM
Department of Clinical Sciences, College of Veterinary Medicine and Biomedical Sciences, Colorado State University, Fort Collins, CO 80523, USA

Julie K Levy

DVM PhD Dip ACVIM Maddie's Shelter Medicine Program College of Veterinary Medicine, University of Florida, Gainesville, FL 32608, USA

Susan E Little

DVM Dip ABVP (Feline Practice) Bytown Cat Hospital, Ottawa, ON, K1K 1G6, Canada

Shila K Nordone MS PhD

Department of Molecular Biomedical Sciences, College of Veterinary Medicine North Carolina State University, Raleigh, NC 27607, USA

Andrew H Sparkes BVetMed PhD DipECVIM MRCVS

International Cat Care/ISFM, High Street, Tisbury Wiltshire, SP3 6LD, UK

*Corresponding author: Fmail: hvpurr@aol.com

Goals of vaccination

- Each cat only against infectious agents to which it has a realistic risk of exposure.
- Against infectious agents that cause significant disease.
- Only when the potential benefits outweigh the potential risks.
- Each cat no more frequently than necessary.
- The greatest number of cats possible in population at risk.
- Appropriately to protect human/public health.

Vaccination philosophy

 Each clinician should make the decision that is appropriate for each animal



Vaccination philosophy

- Vaccinate more cats!
- Vaccinate more cats!
- Vaccinate more cats!
- Especially kittens!



Retrovirus testing: Who? When?

- New cats entering a household or group housing. Re-test again after 60 days, limiting exposure to other cats in interim.
- Cats exposed to a retrovirus infected cat at least once, 60 days after exposure.*
- All sick cats.
- Cats with oral inflammation
- Before giving initial FeLV or FIV vaccine.
- Annually retest cats that remain at risk for infection.
- Cats that donate blood or tissue should be tested for FeLV by real-time PCR to rule out regressive infection.
- Ideally, test healthy feral cats in trap—neuter—return program.

FeLV/FIV in cats with oral disease

Stomatitis

• 20% seropositive

Periodontitis

15% seropositiveGingivitis

• 8% seropositive



Retrovirus management

FeLV Ag

- Despite vaccines, TESTING IS ESSENTIAL
- Identification and segregation of infected cats
 - Majority of cats are never tested
 - Screen or chain link fence barriers are adequate, common disinfectants effective
- Always confirm an initial positive retrovirus test.
- All cats should be tested at appropriate intervals based on risk assessment

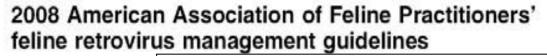
Retrovirus positive cats

- Can live normal, healthy lives
- Positive test is never a cause for euthanasia
- Vaccinate except for the virus they are infected with
- Examine twice a year + CBC, chemistries and U/A annually
 - FeLV: CBC twice a year
- Treat illnesses aggressively
- House indoors, spay/neuter, avoid raw food
- Guidelines: shelter & cattery-specific recommendations

www.catvets.com







Julie Levy DVM, PhD, Dipl Katrin Hartmann Dr Me Regina Hofmann-Leh Susan Little DVM, Dipl Al Vicki Thayer DVM, Dipl Al



Retrovirus-positive cats may live many years without related illness. A decision about euthanasia should not be made based on a positive test alone.

Review Article Compte rendu

Feline leukemia virus and feline immunodeficiency virus in Canada: Recommendations for testing and management

Susan Little, Dorothee Bienzle, Lisa Carioto, Hugh Chisholm, Elizabeth O'Brien, Margie Scherk

Abstract — Feline leukemia virus (FeLV) and feline immunodeficiency virus (FIV) are common and important infectious disease agents of cats in Canada. Seroprevalence data for FeLV and FIV in various populations of Canadian cats are reviewed and recommendations for testing and management of infections by these viruses in cats in Canada are presented. Retrovirus testing in Canada is infrequent in comparison with the United States, and efforts should be focused on reducing physical and other barriers to testing, and on education of veterinarians, veterinary team members, and cat owners regarding the importance of testing. New test methodologies for FeLV and FIV are emerging, and should be independently evaluated in order to provide practitioners with information on test reliability. Finally, more information is needed on FIV subtypes in Canada to improve diagnostics and vaccines, and to provide information on disease outcomes.

www.canadianveterinarians.com





Summary of Key Points in Feline Preventive Healthcare

- Annual and Semiannual Visits
- Nutritional Assessment
- Behaviour and Environmental Assessments
- Pain Assessment
- Disease Screening

- Vaccinations
- Parasite Control
- Surgical Sterilization
- FeLV and FIV Testing
- Dental Care
- Nail Care
- Permanent
 Identification



NAIL AND COAT CARE



Scratching behaviour in cats should not be regarded as simply "claw sharpening." Scratching is an important communication tool conveying both visual and chemical messages. Seen in this context, it is easier to understand that cats will continue to have the need to express themselves regardless of lifestyle and whether or not this behaviour is desirable to their owners.

To curtail the destructive aspect of scratching, a veterinary team member should demonstrate appropriate nail care (trimming) at every opportunity. The owner should be shown basic nail anatomy (i.e., where the quick is), how to gently expose the nail for trimming, and use of nail clippers. The frequency of nail trimmings will depend on the age of the cat and how much of the nail is removed, but in general, a cat's nails may need to be trimmed every 4-6 weeks. In addition to nail trimming, veterinarians should discuss scratching behaviour and offer guidance on how to modify the environment. The provision of suitable stable scratching posts allows for the natural expression of this behaviour. Vinyl nail caps (e.g., Soft Paws™) may be a desirable option for clients.

RESOURCES

AAFP/AAHA 2007 Pain Management Guidelines: Cathealthy.ca/catvetspainmanagement

Gaynor JS. Chronic pain syndrome of feline onychectomy. Clinicians Brief 2005 (April) 11-13.

Cathealthy.ca/cliniciansbrief (free registration)

How-to videos on trimming nails:

- Partners in Animal Health:
 Cathealthy.ca/partnersAH
- International Cat Care:
 Cathealthy.ca/advicecentre

Soft Paws™: Cathealthy.ca/softpaws

Declawing

Owners may discuss onychectomy (declawing) or tendonectomy. Onychectomy should be performed only for medical reasons. Like any other surgical procedure, inherent risk of onychectomy include (but are not limited to) anesthetic complications, hemorrhage, infection, wound dehisence, and side effects associated with improper analgesia. Owners must be made aware that the procedure involves the amputation at the last joint of each digit and the potential surgical complications.

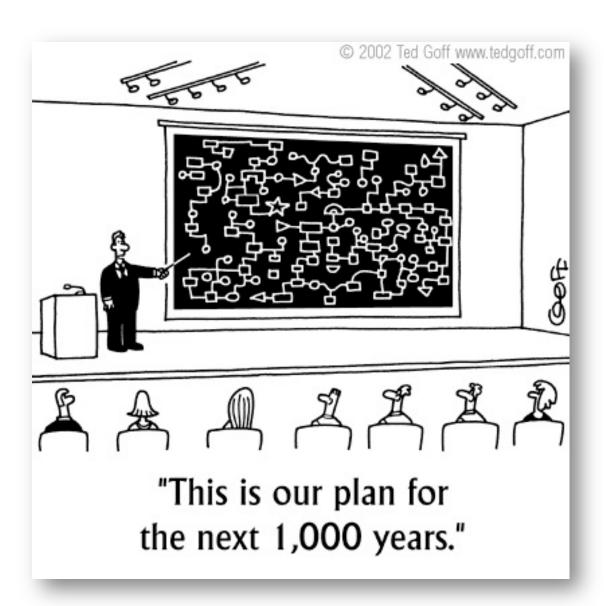


It is okay to say no.









How to implement change



- Designate a project leader (cat champion)
- Use action planning
- Encourage success with training sessions
- Pick 2 or 3 changes to focus on first
- Hold periodic staff meetings

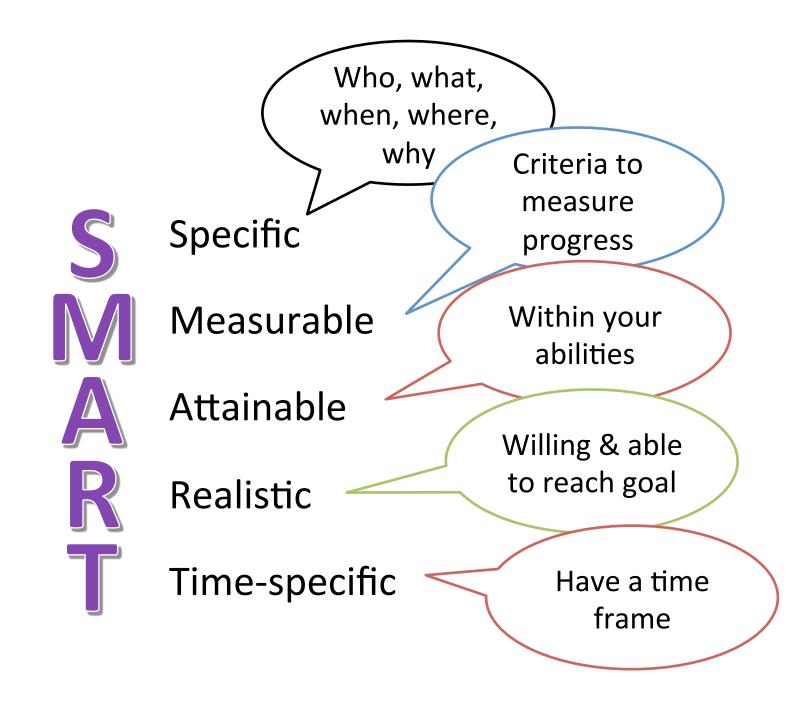
Designate a project leader

- Qualities
 - Understands cats
 - Interest in feline medicine
 - Willing to coach others



Duties

- Suggest changes to procedures & staff behaviours
- Suggest changes to facilities & equipment



Break your plan into components Each component includes ...

- An objective
- Specific tasks to accomplish it
- A person responsible for each task
- A target date for completion
- The expected outcomes



Tips for action planning



 Involve everyone! Get buy in

- Have clear goals
 - Prioritize tasks to reach each goal

Tips for action planning

- Identify barriers or constraints in advance
 - Brainstorm ways to overcome

 Make a list of useful resources



Use training sessions



Interactive!

- Role-playing
- Q & A sessions

 Make sure everyone understands the importance of the changes

Pick 2 or 3 key changes first

 Incremental progress is more successful than trying to do everything at once

Periodically review, cross off completed goals, pick new goals

























LET'S ELEVATE THE STANDARD OF GETHER FELINE CARE ACROSS CANADA CO



Thank you for engaging!

hypurr@aol.com

