### The New York City Veterinarian

### **VMA NYC Newsletter**



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# **Veterinary Medical Association of New York City**

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#### **SEPTEMBER 2011, VOL. 53, NO. 3**

Photograph: Smithsonian's National Zoo

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The Smithsonian Zoo's lions did react to the earthquake, but went back to their routines within minutes of the shaking, while other animals were more irritated by the quake, sending out alarm calls and hiding.











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#### **President's Message**

By Dr. Lisa Esposito

#### **REGISTER NOW! All Day CE with Shawn McVey, November 13th**

The NYC VMA is sponsoring an all day continuing education seminar with Shawn McVey of McVey Management Solutions and developer of integrated veterinary management solutions (IVMS). Members and their staff including hospital managers, technicians and assistants are invited to



participate. Breakfast, lunch and snacks will be provided. The event will take place at the Regina McGinn Conference Center at Staten Island University Hospital. A small fee of \$25 per person will be charged to each participant. Here is what others have said, "Shawn McVey is a credit to the veterinary industry. His insight and expertise is professional and effective. Shawn has the ability to help practice owners review the strengths and weaknesses of their business and then implement a strategy to improve overall success" L. Lee RichterCEO, Montclair Veterinary Hospital Oakland, CA. "As always a fabulous job on Saturday! I've seen your presentation 7 times and yet I always learn something fascinating about you, and always leave empowered to work harder and do better!" Emily

WHEN: Sunday, November 13th, 9AM to 5PM

WHERE: Regina McGinn Conference Center at Staten Island University Hospital

475 Seaview Ave. Staten Island

SPEAKER: SHAWN MCVEY, MA. MSW

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•	ease add Email address for confirmation	n.				
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VMANYC, 200 W. 54th St., Suite 9A, NY, NY 10019.

#### The VERT Committee

Dr. Mark Salemi VERT Liaison Reported by Pat Costello



September is National Preparedness month – made even more relevant after Hurricane Irene's visit recently. The good news is, Irene wasn't as powerful as predicted. The bad news is, we all encountered a lot of stress ensuring the well-being of our facilities and many of our clients. Very few of us could have imagined a mandatory Zone A evacuation, much less paired with a full MTA shutdown. Over 10,000 people spent the night in shelters during the storm. But the best news: over 200 pets spent the night in the shelters too. After years of planning, the City of New York was able to offer fully Co-Located sheltering to all residents. This is unprecedented. There are cities around the US who offer some version of co-located sheltering, but the Animal Planning Task Force and the Office of Emergency Management have created a Coastal Storm Plan that provides for all NYC shelters to be co-located. In the Irene activation, over 80 shelters were running. Each was staffed and supplied to accommodate incoming pets.

Member agencies of the APTF (Animal Planning Task Force) worked as a team to set up those pet safety

zones. The City and the ASPCA Field Operations Team did a back-breaking job of having materials in place (cages, bedding, food) in time, Mayor's Alliance addressed the risks to existing shelters by moving animals out of affected areas, CACC was ready to rescue pets throughout the city, NYC VERT is the agency responsible for all veterinary care in emergency activations. Utilizing the network of volunteers, we distributed vaccines and doctors throughout the city ensuring all pet shelter populations were verified or vaccinated for rabies and stood ready to attend to any emergencies.

Evacuees and their pets were comfortable and well-cared for. But most importantly, they were in the same building. More people did evacuate from danger because they could bring their pet. The result of all this planning was that lives were saved.



Which is not to say it was all perfect - There were certainly lessons learned and changes that will be made for the future.

The New York City Veterinary Emergency Response team would like to thank the VMA members who responded to the email request we sent out for volunteers. Your professionalism and cooperation were essential to the success of this activation. Your feedback is being incorporated into our work already. Thanks also go out to everyone who took the time to advise their clients about the risks of a coastal storm and help them prepare for their pet's safety. NYC VERT would like to hear your thoughts on the hurricane – what were your professional experiences that weekend? What challenges or successes did you have? Please send us an email to <a href="Info@NYCVERT.com">Info@NYCVERT.com</a> so that we can bring your valued opinion to a forum where it can be heard.

The APTF has organized a Pet Preparedness event in Union Square Park on September 26. Pet owners will be able to microchip and vaccinate their pet at no cost thanks to the generosity of the ASPCA and NYC VERT. These donations are made in the spirit of Public Health and Safety and are not intended to replace veterinary relationships. As always, VERT will be promoting veterinary follow-up to all attendees. The Department of Health will be on hand for dog licensing (for the normal fee) and promoting spaying and neutering for pets. NYC VERT will be promoting Go-Bags for Pets as well. You and your clients are welcome to come by from 4pm till 7pm near the dog run. Hope to see you there. Please contact us at Info@NYCVERT.com or 516-NYC-VERT for additional information.

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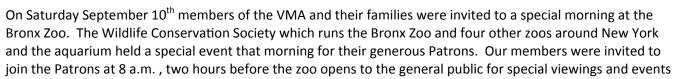
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### Special Social Function at the Bronx Zoo

Dr Amy Attas,



for adults and children.

Over 150 of our members and their families attended. Over sixty of our members and their guests took a tour of the Wildlife Health Center. The Wildlife Health Center is the headquarters of the Global Health Program whose mission is to conserve wildlife and wild places and to protect the health of animals around the world. The Global Health Program has field staff in more than 35 countries. They identify emerging diseases and develop methods to mitigate their impact on both wildlife and human populations. The WCS and its Global Health Program operate under the principle of "One World, One Health" because wildlife, human and domestic animal health are all linked.

The tour of the Wildlife Health Center high-

George Korin's painted boys Adrian and Darius

lighted the unique nature of their hospital and its diverse needs. We toured their pathology laboratory and its necropsy area. Samples have been saved here since the start of the Bronx Zoo. The tour continued to the large surgical suite with attached viewing room, a specialized recovery area, the anesthesia preparation area (which looked more like a shooting range), and a tour of some of their specialized equipment such as endoscopes in many, many lengths. Our members and their guests had an educational and enjoyable time. See more photos on page 7.







#### **The Animal Health Committee**

Dr Amy Attas, Chairperson



The Food and Drug Administration (FDA) has launched a new initiative called PETNet, The Pet Event Tracking Network. PETNet will allow FDA and its State partners to quickly and effectively exchange information about outbreaks of illness in companion animals associated with pet food. The concept for PETNet was developed in response to the 2007 melamine pet food recall. One of the difficulties faced by FDA during the melamine incident was the timely sharing of information between FDA and the States and among the States themselves. The FDA has worked closely with its Federal and State partners to develop the PETNet, and believes that it will serve an important function in protecting the public and animal health.

PETNet will be a secure, internet-based network comprised of the FDA, other Federal agencies, and State regulatory agencies/officials that have authority over pet food. The Network will provide timely and relevant information about pet food-related incidents to FDA, the States, and other Federal Government agencies charged with protecting animal and public health. Members of the network will be able to both receive alerts about pet food incidents, as well as create alerts when they are aware of a pet food incident within their jurisdiction. The information will be used to help State and Federal regulators determine how best to use inspectional and other resources to either prevent or quickly limit the adverse events caused by adulterated pet food. Many states have regulatory authority beyond that of the FDA and often can be in a position to act independently of FDA with the information they will receive from the Pet Event Tracking Network. The public and veterinarians can submit information about questionable food products to the FDA through the following link:

http://www.fda.gov/AnimalVeterinary/SafetyHealth/ReportaProblem/ucm182403.htm.

#### The Membership Committee

Alexandra van der Woerdt

A total of 19 veterinarians were introduced as new or returning members of the VMA of NYC during the June and September meetings of 2011. They are as follows:

New members June 2011	New members September 2011			
Dr Michael Arpino	Dr Carolyn Brown	Dr Shalgh Christ	Dr Sarah Granzin	
Dr Stephen Katz	Dr Erin Kulick	Dr Inbal Lavotshkin	Dr Courtney Leonard	
Dr Laura Kennedy	Dr Mary Ellen Martin	Dr Sarah McCready	Dr Anthony Miele	
Dr Laura Tepper Lamantia	Dr Jessica Melman	Dr Danielle Palatt	Dr Nicole Peta	

#### Pet-Rox- Rocks in St. Louis

**Veterinary Medical Association of New York City** member and housecall practitioner, **Dr. Jeffrey Levy** was a featured performer at the "You Got Talent" event at the AVMA's annual convention held in St. Louis, Missouri this July. Levy, was among three contestants invited to perform live in a national talent competition within the veterinary community sponsored by the AVMA. "Dr. Jeff" sang his original 'pet-centric' selection, entitled, "Raining Cats and Dogs" taken from his band's CD, "Just Sniffing Around" in front of nearly one-thousand enthusiastic audience-goers comprised of veterinarians and their families as part of the opening act for film-actor and nationally-acclaimed comedian, Jay Mohr.

Levy, whose charity-band, Pet-Rox, has entertained at numerous animal-welfare related events over the past thirteen years, is presently working with members of the New York City theatrical community to develop an animal-inspired Broadway-style revue. For further information regarding the Pet-Rox annual "Rock 'N Rudolph" holiday show you may contact the band at: <a href="mailto:PetRoxMusic@aol.com">PetRoxMusic@aol.com</a>

#### **Liaison Committee**

Amy I. Attas, V.M.D.

The liaison committee interacts with our local specialty hospitals, educational institutions and not for profit organizations and lists in this column any information which is relevant for our membership. Please feel free to contact me if you or your hospital has information that would be relevant. Specifically, we highlight continuing education which is complementary to our membership and new hires in specialty areas. I invite you to contact me if your hospital has information that you would like to share with our membership at <a href="mailto:dramy@citypetsvets.com">dramy@citypetsvets.com</a>.

At the time of this newsletter there were no scheduled dates for CE from VERG or Animal Endocrine Clinic although plans for more dates were in the works. Please let me know if you or your practice have any plans for continuing education or if you have any event that you would like to invite the general membership to. You may contact me at <a href="may.acitypetsvets.com">dra-my@citypetsvets.com</a>

#### **News from the Animal Medical Center (AMC):**

The next in the series of Partners in Practice Continuing Education will be on Sunday December 4, 2011 at the AMC: 510 East 62<sup>nd</sup> Street.

This all day lecture will be a comprehensive review of "Vomiting and Diarrhea. How to diagnose and successfully manage." The conference is free and RACE approved. Breakfast and lunch are served. Registration can be done on line at <a href="https://www.amcny.org/pipseminars">www.amcny.org/pipseminars</a>

The AMC also offers *Practical Clinical Evening Workshops*. These are held from 7:00pm -8:30 at the AMC on the evenings and subjects listed below. These are small group, intimate and interactive learning workshops. Practitioners are welcome to bring case materials to discuss. These evenings are free but registration is required as space is limited. Contact Dr. Phil Fox at <a href="mailto:philosoperation-needed-n

October 4, 2011 - Radiology Rounds November 8, 2011 - Radiology Rounds December 6, 2011 - Radiology Rounds October 18, 2011 – Cytology Rounds for Techs and Vets November 15, 2011 – Neurology Rounds

December 20, 2011 - Emergency and Critical Care

#### **News from NYC Veterinary Specialists:**

Continuing education lectures are free and open to all area veterinarians. There are also veterinary technician CE lectures which are open to all veterinary technicians and assistants. Registration is required and is done by contacting Dr. David Wohlstadter at 212 767 0099 or <a href="mailto:drwdvm@nycvs.com">drwdvm@nycvs.com</a>. Dinner begins at 7 PM and the lectures start at 7:30 PM. Unless otherwise noted, lectures are given in Brooklyn, Queens and Manhattan at the addresses listed below:

Manhattan 410 West 55th St (Bet 9th and 10th Avenues) New York, NY 10019 Queens 107-28 71st Rd (Bet Austin St and Queens Blvd) Forest Hills, NY 11375 Brooklyn 32 4th Ave (at Pacific St) Brooklyn, NY 11217

#### OCTOBER 2011

Jill Abraham, VMD, DACVD: Treatment of Resistant Otitis Infections: Bad Bugs, Bad Bugs, Watcha Gonna Do? Special location: El Viejo Yayo Restaurant

36 5<sup>th</sup> Avenue, Brooklyn, NY 11217

Amy Baker, DVM: A Salute to the Red. White, and Blue (and sometimes Brown). A Tour of Corneal Dystrophies, Degenerations and Pigmentations.

October 18th-Queens; October 19th-Manhattan; October 20th-Brooklyn

#### **NOVEMBER 2011**

Jessica Gentile, DVM: Congenital Heart Disease in Dogs

November 15-Queens; November 16<sup>th</sup>-Manhattan. November 17<sup>th</sup> Brooklyn

Continued on pg 12......



## Merial is proud to support the Veterinary Medical Association of New York City





























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#### Liaison Committee continued.....

Amy I. Attas, V.M.D.

#### **News from Fifth Avenue Veterinary Specialists:**

An evening of CE will be held at the Union Square Ballroom located at 27 Union Square West on Tuesday November 15<sup>th</sup> from 7-10 pm. Speakers will be Dr. Mary Buelow who recently joined FAVS after completing a residency in veterinary and oral surgery and Dr. Lisa Mahlum who completed her residency in emergency and critical care. At this time, the subject for Dr. Mahlum's talk has not been determined. Dr. Buelow's CE topic is "Recognition of Oral Pathology. Hors d'oeuvres and non-alcoholic beverages will be served. To rsvp, contact Monica Dunn at 212 924-3311 or by email at Monica.dunn@vcahospitals.com.

#### **News from the Mayor's Alliance:**

Community Cat Spay/Neuter Project Invites Member Participation (see page 13 for more information).

As a result of keen interest in participating in the program among VMA of NYC members, the Mayor's Alliance will present a special informational session for members on Tuesday, November 8<sup>th</sup>, 6:30-8:30 PM, at a convenient mid-town location. Speakers will include Dr. John Sangiorgio of Complete Care Veterinary Center and Dr. Mark Salemi of North Side Animal Hospital. Representatives from the NYC Feral Cat Initiative, a program of the Mayor's Alliance, will also speak. If you would like to read about trap-neuter-return (TNR) and feral cats, please visit www.NYCFeralCat.org.

If you would like to attend this informative session, please contact Evon Handras at 212-564-4604 or email <a href="mailto:Evon@AnimalAllianceNYC.org">Evon@AnimalAllianceNYC.org</a>

#### The Political Action Committee

Dr John Sangiorgio, Chairperson



Long ago (2001) in a land far, far away (City Hall) legislation was passed mandating the holder of the city contract for animal shelters (AC+C) to provide animal shelters in all five boroughs. That legislation was introduced by Peter Valone Sr. (D- Queens- retired) but never put into effect. It seems that no one or entity is accountable for this violation of the law. Addressing the problem at hand, the Mayors alliance for animals has proposed Intro. 655 which mandates full service shelters in three boroughs and receiving centers with expanded hours in the other two (Queens and the Bronx), as well as field service operations 7 days a week, 12 hours a day. In addition, the City will increase funding to Animal Care and Control by \$10 million dollars over the next three years. We realize that this is not the best possible solution to the problem of homeless animals but it is a realistic attainable answer. This Intro defines animal shelters, receiving centers, and trap neuter and release programs. I testified on the behalf of the VMA of NYC in favor of this legislation after it was reviewed by the executive board and presented at the last general meeting. Also testifying in favor of this legislation was the ASPCA and PETA (politics makes strange bed follows). On Wednesday, September 22, 2011 the City Council passed Intro. 655 by a vote of 46 – 4. Mayor Bloomberg is expected to sign the bill into law soon.

This month I also met with assembly member Matt Titone (D-Staten Island) who introduced our legislation, at the state level, to ensure that New York State would never become a puppy mill state, and our legislation providing rehabilitation for veterinarians that are deemed to have short comings by the state department of education. In the future we will structure a grass roots way to support these bills. Remember: GET INVOLVED!



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#### The Maddie's Fund Liaison

Dr George Korin, Chairperson

Recently, the VMA board had a meeting with Ms. Jane Hoffman and Ms. Evon Handras (of the Mayor's Alliance for Animals), to discuss the progress in the Mayor's Alliance for Animals' goal to eliminate euthanasia of unwanted but healthy pet animals in NYC. As we enter the eighth year of the program one can measure this success by the reduction in euthanasias at Animal Care and Control throughout the five boroughs by about 20,000 dogs and cats per year (in year one there were over 37,000 euthanasias as compared to just over 11,000 last year). The two major reasons for this success has been the spaying



and neutering of animals citywide by private practice veterinarians and by not-for-profit animal hospitals and humane organizations, and the adoption of these animals into the general population.

From the programs inception, the VMA of NYC has helped achieve this goal by participation in the Maddie's Fund Spay/Neuter Project by association member veterinarians. The core of this program is for our members to spay/ neuter dogs and cats belonging to people on public assistance. Veterinarians who participate will be reimbursed \$150 for a dog spay, \$80 for a dog neuter, \$105 for a cat spay, and \$60 for a cat neuter. They may also collect a \$20 copay from the dog owner, and \$10 from the cat owner. The reimbursement rates are much higher than any other spay/ neuter programs in our area and thus should be a great incentive for our continued involvement. For more information and to enroll in the program, please contact Evon Handras at the Mayor's Alliance: 212-564-4604 Ext 1 or email: evon@animalalliancenyc.org

I wish to thank the members of the VMA who have participated in the Maddie's Spay/Neuter Project and for all their efforts over the past seven years.

At this meeting two relatively new initiatives were also been introduced to us:

Veterinarians in the NYC VMA may become participants in the Picasso Veterinary Partners. The Picasso Veterinary Fund doles out monies to cover the costs of veterinary care for ill animals at the Animal Care and Control transitioning into fostering agencies. These animals, who normally would have been euthanized, are rehabilitated and prepared for adoption. Veterinarians who participate in the care of these animals are expected to significantly reduce fees in order to be eligible for Picasso Fund monies. Again, the goal of reduction of euthanasia is further achieved. Veterinarians who are interested in becoming "Partners" should contact Melissa Donaldson at 212-564-4604 Ext 2 or by email: Melissa@animalalliancenyc.org

The third project is the NYC Feral Cat Initiative. Association veterinarians can participate in their local communities by helping spay and neuter feral cats that have been brought to their clinics by various rescue organizations. For performing these surgeries, veterinarians will be reimbursed at a rate of \$60 / male and \$105 / female cat (the same as for owned pets). In order to participate, local veterinarians and their AHTs <u>must</u> complete a Trap/Neuter/Return (TNR) certification program. An introduction lecture about this program will be given at the ASPCA Midtown offices, 520 Eight Ave. 7th Floor NY NY 10018 (212- 876-7700) on Tuesday November,8 from 6:30pm to 8:30pm. For more information please contact: Barbara Tolan <a href="mailto:barbara@animalalliancenyc.org">barbara@animalalliancenyc.org</a> Please attend this lecture as a gateway to participation in this important community program.

Seven years ago the VMA of NYC was asked to help participate in the lofty goal of making NYC a no-kill shelter animal zone. Accomplishments have been made, but there is still more work to be done. Please involve yourselves in these meaningful programs so that NYC can achieve the goal of becoming a city where euthanasia of unwanted but healthy animals will become a thing of the past!

#### **The Social Committee**

Dr Mari Morimoto, Chairperson

### Take Me Out to the Ball Game—4th Annual VMA Baseball Outing Recap

On the night of August 13th, about 40 members, staff, sponsors, and their families gathered at the Richmond County Bank Ballpark for the annual

VMANYC field trip. The evening kicked off with all-you-caneat barbeque buffet, free baseball caps, and the national anthem, as we returned to the Picnic Deck for the first time in 2 years. Despite an occasional misting of light drizzle, it was a wonderful night as the Staten Island Yankees



hammered the Washington Nationals farm team Auburn Doubledays 5-0, including a 4-run 6th inning. We were having so much fun, in fact, that we missed seeing our name in lights! The evening once again ended on a high note with a spectacular fireworks display and the kids' run around the bases.

### VMA of NYC Represented at the Great New York State Fair By Dr Eric Bregman

This year the New York City Regional was represented by Drs Jack and Eric Bregman, Dr. John Sykes and Dr. Shirley Koshi at the New York State Fair in Syracuse. The NYSVMS has created a fantastic exhibit known as the Hall of Veterinary Health. There are Multimedia displays, instruments, and x-ray view boxes available for the public to interact with. Veterinarians staff the hall throughout the duration of the state fair and provide answers to questions about all aspects of veterinary medicine.











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#### **Calendar of Events**

#### **Program Committee**

Dr. Mark E. Peterson, Chairman, Dr. Deirdre Chiaramonte

October 5, 2011

Speaker: James Flanders, DVM, Dip. ACVS, College of Veterinary Medicine, Cornell University

Topic: Soft tissue Surgery

November 2, 2011

Speaker: Thomas Graves, DVM, PhD, Dip. ACVIM, College of Veterinary Medicine

University of Illinois at Urbana-Champaign

Topic: Insulin and Diabetes

November 13, 2011 – Special All-Day Seminar

Speaker: Shawn McVey, MA, MSW

McVey Management Solutions, Chicago, Illinois

Topic: Practice Management (more information will be provided soon)

**December 7, 2011** 

Speaker: David Twedt, DVM, Dip. ACVIM, College of Veterinary Medicine & Biomedical Sciences

Colorado State University

Topic: Feline Pancreatitis and Hepatic Disease

January 4, 2012

Speaker: Laura Eirmann, DVM, DACVN, Oradell Animal Hospital Topic: Answering Common Pet Owner Nutrition Questions

February 1, 2012

Speaker: Andrea Looney, College of Veterinary Medicine, Cornell University

Topic: Pain/Anesthesia

March 7, 2012

Speaker: Bonnie G. Cambell, DVM, Dip ACVS, College of Veterinary Medicine Washington State University

Topic: Soft Tissue Surgery (more specific topics TBA later)

March 7, 2012

Speaker: Bonnie G. Cambell, DVM, Dip ACVS, College of Veterinary Medicine Washington State University

Topic: Soft Tissue Surgery (more specific topics TBA later)

April 4, 2012

Speaker: Margie Scherk DVM, Dip. ABVP, Editor, Journal of Feline Medicine and Surgery, Vancouver, BC Canada

Topic: Advances in Feline Medicine

May 2, 2012

Speaker: Justine Lee, DVM, Associate Director of Veterinary Services Pet Poison Helpline

Minneapolis, Minnesota

Topic: Top 10-20 Toxins and How to Treat Them

June 6, 2012

Speaker: Catharine Scott-Moncrieff, DVM, Dip, ACVIM, ECVIM

Department of Veterinary Clinical Sciences, Purdue University, Indiana

Topics: Addison's disease

Diabetic cats: What do we really know about factors that influence remission?

Remember, our Continuing Education program is meant for our VMA of NYC members, so please do not ever hesitate to provide your input and suggestions for great speaker or timely topics to make our C.E. program the best it can be. I can always be contacted via email (<a href="mark@animalendocrine.com">mark@animalendocrine.com</a>). Or feel free to call me in my office (212.362.2650) if you have any suggestions.

### Nutritional Management of Feline Hyperthyroidism: What's the Best Diet to Feed these Cats?

Mark E. Peterson, DVM, Dip. ACVIM
Animal Endocrine Clinic
New York, New York
drpeterson@animalendocrine.com

Hyperthyroidism is the most common endocrine disorder of cats, and is one of the most common medical problems seen in small animal practice. Surprisingly, despite the fact that nutritional factors and cat food likely has a role in the etiopathogenesis of this disease (1), there are only limited published recommendations about what to feed these cats.

The question, "What's the best diet to feed my hyperthyroid cat?" is an extremely common one that I get from concerned cat owners. I'm certain that many of you get the same question.

With the recent introduction of the Hill's y/d diet (2), the iodine deficient diet which, according to the company website "restores thyroid health," I thought that my opinion of what diets should be fed to cats with hyperthyroidism might be of interest.

For the first section of this article, will discuss the ideal food composition and nutrients that I believe hyperthyroid cats should be fed. I will then discuss the use of y/d diet, and specifically address the pros and cons of using this diet for management of hyperthyroid cats.

#### THE MANY METABOLIC PROBLEMS FACING THE HYPERTHYROID CAT

When secreted in excess, thyroid hormones have profound metabolic effects on the whole body, and dysfunction of multiple organ systems (CNS, cardiac, gastrointestinal, hepatic, and renal) is common in hyperthyroid cats (3-5).

#### Weight Loss and Muscle Wasting

Weight loss, despite a normal to increased appetite, is the classic and most common signs seen in cats with hyperthyroidism (3-5). These cats lose weight because their hyperthyroidism accelerates their metabolic rate and body's energy expenditure; they are burning up their food calories faster than they can consume their daily meals.

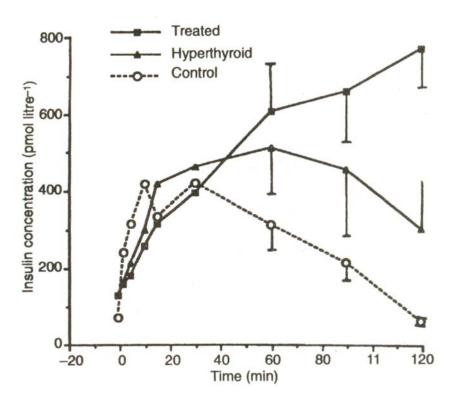
It's important to realize that hyperthyroidism is a catabolic state. The progressive weight loss and muscle wasting that is so characteristic of feline disease is caused by increased protein catabolism leading to a negative nitrogen balance (6,7). When hyperthyroid cats first lose weight, the case can usually be first noticed as a loss of muscle mass in the cat's lumbar paravertebral area. Despite this loss of muscle mass, most mildly hyperthyroid cats retain their "belly" during the initial stages of their thyroid disease and may even have a higher than ideal body condition score. With time, severe muscle wasting, emaciation, cachexia, and death from starvation can occur if the cat's hyperthyroidism is left untreated (3-5). In hyperthyroidism, the cat's body consumes its own muscle tissue to get the protein it needs to sustain its carnivorous life.

Even with treatment of hyperthyroidism, recovery of muscle mass and function may be prolonged, lasting several weeks to months. This is especially true if these cats are not provided with enough protein in their diet to rebuild and maintain their lost muscle mass.

#### Hyperglycemia, Glucose Intolerance, Insulin Resistance, and Overt Diabetes

Hyperthyroid cats commonly develop profound changes in glucose and insulin metabolism. Mild to moderate hyperglycemia is common in hyperthyroid cats, which is generally attributed to a "stress" reaction (3,5).

However, the actual metabolic changes are actually much more complicated: hyperthyroidism frequently causes moderate to severe "endogenous" insulin resistance, as demonstrated by high resting serum insulin concentrations and an exaggerated insulin response during an IV glucose tolerance test (8,9). This insulin resistance is associated with a decreased glucose clearance (impaired glucose tolerance), which is indicative of a prediabetic state (*See Figure 1*).



**Figure 1:** Serum insulin concentrations in response to intravenous glucose tolerance test in 11 healthy cats, 15 cats with untreated hyperthyroidism, and 6 hyperthyroid cats after treatment (9). Notice the exaggerated insulin secretion in the untreated hyperthyroidism cats, which becomes even worse after treatment. The finding of such high insulin concentrations is diagnostic for "endogenous" insulin resistance.

Occasionally, an untreated hyperthyroid cat will develop overt diabetes mellitus. Many of these diabetic cats will develop moderate resistance to the injected insulin, with poor diabetic control.

Surprisingly, the insulin resistance and prediabetic state so common in hyperthyroid cats does not always improve and may even worsen despite successful treatment of hyperthyroidism (9).

#### Sarcopenia of Aging

In addition to loss of muscle mass from the catabolic effects of thyroid hormone excess, cats also tend to lose muscle mass they age, independent of their thyroid status. This phenomenon, referred to as sarcopenia of aging, is also common in elderly human beings (10-12). The term age-related sarcopenia is derived from Greek (meaning "poverty of flesh") and is characterized by a degenerative loss of skeletal muscle mass and strength, as well as increased muscle fatigability.

In adult cats, maintenance energy requirements decrease by about 3% per year up until the age of 11 years, and then actually start to increase again (13). This contributes to a tendency of senior cats to lose muscle mass if their energy needs are not met. Lean body mass of aging cats drops dramatically after 12 years of age, and by age 15, cats may have a mean lean tissue mass that is a third less than cats aged 7 years or less (13, 14). Body fat also tends to progressively decrease in cats after the age of 12 years; this combination of reduced lean mass and body fat contributes to weight loss experienced by many elderly cats.

The ability to digest protein is also compromised in many geriatric cats. After the age of 14 years, one-fifth of geriatric cats have reduced ability to digest protein (13-15). Reduced protein digestibility in geriatric cats seems to occur in parallel with reduction of lean tissue and it might predispose them to negative nitrogen balance. (16).

Although moderation of calorie intake might be suitable for some mature cats, it does not appear to match the needs of most geriatric cats. In contrast, it seems more logical to use highly digestible, energy-dense food for geriatric cats in order to prevent or slow their decline in body weight and lean body tissue (13,16,17). Reducing protein intake in geriatric cats, at a time when lean tissue has been lost, is contraindicated. Geriatric cats seem to have nutritional requirements closer to kittens than to mature adult cat.

#### **DIET RECOMMENDATIONS FOR HYPERTHYROID CATS**

#### **High Dietary Protein**

Obligate carnivores, such as the cat, are unique in their need for large amounts of dietary protein (specifically, dispensable nitrogen) that separates them from omnivores and herbivore species (18-20). This absolute requirement for dietary protein intake in cats is critically important when formulating a diet for hyperthyroid cats, in which protein catabolism and muscle wasting is universally present.

Protein is the primary macronutrient responsible for maintenance of muscle mass. Restoring and preserving any remaining muscle tissue in cats treated for hyperthyroidism depends upon the cat consuming a diet with sufficient amounts of high-quality protein. This recommendation for higher amounts of dietary protein does not change once euthyroidism has been restored. The dogma that all older cats should be fed reduced energy "senior" diets must be questioned based on what is now known about the increasing energy requirements and nutritional needs of older cats (12,13).

In most geriatric cats, logic dictates the use highly digestible, energy-dense food mitigates the decline in body weight and lean body tissue and to avoid protein:calorie malnutrition (12,16,17). Protein reduction for this geriatric life stage, at a time when lean tissue is being lost, is contraindicated. Geriatric cats seem to have nutritional requirements closer to kittens than to mature adult cats.

#### **Low Dietary Carbohydrates**

Since most of these cats also have subclinical diabetes —as evidenced by their mild hyperglycemia, glucose intolerance, and insulin resistance (see Figure 1)— feeding a low carbohydrate diet (<10% of total calories) also is strongly recommended (21).

Feeding a low carbohydrate diet will improve insulin sensitivity, reduce the need for exogenous insulin, and help stabilize glucose metabolism in these cats (21-23). This may prevent the development of overt diabetes and control long-term obesity in these cats after successful control of the hyperthyroidism.

#### Selecting a Cat Food Based on Diet Composition and Ingredients

Like normal and diabetic cats, I believe that it makes sense to feed most hyperthyroid cats a diet composition close to what they would be getting in the wild. That would be a diet composed of approximately 50-70% protein, 5-10% carbohydrates, and 30-40% fat.

Because older cats also lose lean muscle mass in association with the "sarcopenia of aging," this diet composition needs to be continued after one treats the cat's hyperthyroidism to restore euthyroidism.

**Composition:** Check out this website (http://binkyspage.tripod.com/foodfaq.html), which gives you a breakdown of the composition of the various prescription and over-the-counter diets. This website uses metabolizable energy (ME) values to evaluate food composition— in other words, it gives you the percent calories that comes from the protein, fat, and carbohydrate fractions of the diet, and allows us to compare various diets without worrying about their differ

ent water levels. It turns out that many of the over-the-counter diets have a better composition of protein and carbohydrates than you might have thought — even better than many of the more expensive prescription diets. Very few of my hyperthyroid cat patients require a prescription diet to fulfill their nutritional needs.

The composition of almost all dry food cat diets are much too high in carbohydrates and most are too low in protein content. In addition, all dry foods are obviously water depleted; given that cats normally have a low thirst drive, feeding dry food (especially to an elderly hyperthyroid cat) predisposes them to a state of chronic dehydration. That is why I believe it's best to limit the amount of dry food that is fed to cats, or even better, not feed dry food at all.

**Ingredients:** Once we have selected a few diets with the required composition breakdown of carbohydrates, protein, and fat, we next have to look at the ingredient list. Not all of the proteins in cat foods are equal in quality. Remember that quality meat is the best ingredient in a food and that meat by-products are a close second. Some vegetable and grains are fine, but they supply a less bioavailable form of protein for cats and should not be the primary source of dietary protein.

Remember that when deprived of protein, carnivores will continue to break down muscle tissue to create the energy they need (18-20). By feeding only high-quality protein diets, we will help restore the cat's muscle mass and improve strength and agility.

#### **Hyperthyroidism and Concurrent Renal Disease**

Concurrent chronic kidney is disease is common in hyperthyroid cat, occurring in up to 30% of cases. Cats with advanced renal disease (IRIS Stage 3 or 4) may need lower amounts of dietary protein to lessen uremic episodes (24). However, at least in early to mid-stage renal disease, lowering of the serum phosphate concentration is much more important in management than dietary protein restriction, and this can be easily accomplished with phosphate binders without lowering the protein content of the diet (25,26).

It may seem impossible, but no studies have conclusively demonstrated that severe restriction of protein alone will prevent further deterioration of kidney function in cats (27). In all of the reported studies, the diets were restricted in phosphorous and salt, as well as protein; in addition the kidney diets all were supplemented with potassium, B-vitamins, and omega-3 fatty acids, all of which may be more important than protein restriction alone.

The major problem that I have with the prescription kidney diets is that they restrict protein to the point that some cats – especially those with concurrent hyperthyroidism - will continue to catabolize their own muscle mass (and become protein malnourished) despite adequate control of the thyroid condition. Most nephrologists nowadays (and I agree) would NOT use restricted protein for cats during the earlier stages of CKD, but rather, they start protein restriction when needed to keep the serum urea nitrogen in the 60 mg/dl range. By doing this, we would help prevent or delay the development of signs associated with uremic syndrome.

#### USE OF AN IODINE DEFICIENT DIET (Y/D) FOR TREATMENT OF CATS WITH HYPERTHYROIDISM

#### Does Diet Management with Hill's Prescription Diet y/d Work?

Recent studies have indicated that use of a diet with severely restricted iodine levels (Hill's Prescription Diet y/d Feline –Thyroid Health) can result in normalization of  $T_4$  levels in hyperthyroid cats and provide a further option for medical management of this disease (28,20). The basis for using this diet is that iodine is an essential component of both T4 and T3; without any iodine, the thyroid cannot produce thyroid hormones. This is clearly an iodine diet, containing levels (<0.32 ppm or <0.32 mg/kg) well below the minimum daily requirement for adult cats (0.46 ppm or 0.46 mg/kg) of food (30).

By 4 weeks, about 75% of hyperthyroid cat exclusively eating y/d will have normal serum total T4 concentrations. By 8 weeks, 90% of cats have a serum T4 level; by 12 weeks, almost all cats should have normal values (2). This therapy appears to be more effective in cats with only moderate elevations of  $T_4$  than cats with severe hyperthyroidism.

Based on the data so far, however, the serum T4 concentrations in many cats fed this diet remain in the high-normal range, rather than the lower half of the T4 reference range. Since most older, clinically normal cats have serum T4 values in the lower end of the reference range (e.g., 1.0-2.5 mg/dl), that is considered the ideal target range for success in treating cats with hyperthyroidism no matter what therapy is used.

#### Main Indications for y/d Diet for Management of Hyperthyroid Cats

In my opinion, the main indication for the use of y/d diet would be in cats that are not candidates for definitive treatment of the underlying thyroid tumor(s) with radioiodine, which remains the treatment of choice. In addition, nutritional management with y/d food (canned rather than the dry y/d) could be considered in cats whose owners are not able to give oral medication or in cats that develop side effects from oral or transdermal methimazole.

This represents a new "alternative" medical treatment for hyperthyroidism that certainly will have advantages over other alternative medical therapies such as ipodate, herbal extracts, or homeopathic drugs. In my opinion, y/d is not the treatment of choice but does represent a viable option for those hyperthyroid cats where no other option is effective or acceptable.

#### Disadvantages of y/d Diet for Management of Hyperthyroid Cats

All of the recent hype and widespread promotion of this diet could imply that y/d is now the treatment of choice for hyperthyroid cats. Although this diet does appear to be effective in lowering serum T4 concentrations in most cats, its use is not without disadvantages.

- 1. First of all, this diet cannot cure hyperthyroidism. Rather, feeding y/d just offers control (withholding fuel for thyroid tumor). The thyroid tumor remains and will continue to grow larger. As now documented in cats with long-standing hyperthyroidism, transformation of adenoma to thyroid carcinoma can occur unless definitive treatment (surgery or radioiodine treatment) is used to cure the disease.
- 2. The cats fed this diet must not eat any other cat diet, table food, or treats because even tiny amounts of iodine may lead to failure of this diet to effectively control hyperthyroidism (2).
- 3. If the diet is stopped, relapse will develop; the cat must eat only this diet for rest of his/her lifetime. If a cat develops other age-related disease (diabetes, cardiac, or GI disease), a disease-specific diet cannot be fed or relapse of hyperthyroidism will occur.
- 4. The long-term consequences of this iodine deficient diet in cats are not known, especially in normal cats in household that are also fed this diet. Without adequate iodine to make thyroid hormone, circulating T4 and T3 fall, which will give rise to high serum levels of thyroid stimulating hormone (TSH) The high TSH acts on the thyroid gland to stimulate cellular growth and proliferation and induce thyroid hyperplasia and goiter (31). For this reason, y/d should not be the only diet fed to euthyroid cats, which can be an issue for owners with multiple cats in the same household.
- 5. Active iodide uptake and accumulation also occurs in a variety of nonthyroidal tissues, in addition to the thyroid gland (32). The other tissues that actively accumulate iodine include the salivary glands, gastric mucosa, lactating mammary gland, choroid plexus, and the ciliary body of the eye. Although the complete physiological significant of such nonthyroidal iodine accumulation is not clear, iodine appears to play an important role as an antioxidant and in immune function. In addition, iodine deficiency has been reported as a risk factor for both gastric and breast cancer in human patients (33,34).
- 6. The composition (protein/fat/carbohydrate breakdown) of y/d reveals that it is a high carbohydrate, low protein diet (Table 1). Compared to a cat's natural diet in the wild, y/d is 2.5 to 5 times higher in carbohydrates and contains only half of the amount of protein normally ingested. Feeding y/d for long periods is less than an "ideal" diet for an obligate carnivore, especially in hyperthyroid cats with severe muscle wasting or sarcopenia of aging (12, 13, 17).

Table 1: Caloric Distribution for Hill's y/d vs. Natural Cat Diet

Food	Protein (%)	Carbohydrate (%)	Fat (%)
Dry y/d	28	23	49
Canned y/d	27	24	49
Natural diet (35-37)	50-70	5-10	30-40

7. The ingredients present in y/d are also less than ideal for cats. In addition to the fact that y/d is a low-protein diet (Table 1), most of the diet's protein is derived from plant sources. This is especially true for the dry formulation, in which the only listed animal protein on the label is "dried egg product," and this is the fifth ingredient (Table 2). In other words, this diet does not contain any meat. The primary protein source in dry y/d is corn gluten meal, used in pet foods because of its lower cost. Prescription Diet y/d dry also contains "soybean mill run," which is considered a by-product filler. Soy may also contain enzyme inhibitors that impede normal protein digestion. Most importantly, soy is a know thyroid goitrogen and is considered to be one factor that may contribute to hyperthyroidism in cats.

#### Table 2: Label Ingredients for Dry y/d Feline Thyroid Diet

Corn Gluten Meal, Animal Fat (preserved with mixed tocopherols and citric acid), Whole Grain Corn, Soybean Mill Run, Dried Egg Product, L-Lysine, Chicken Liver Flavor, Potassium Citrate, Lactic Acid, Dicalcium Phosphate, vitamins (L-Ascorbyl-2-Polyphosphate (source of vitamin C), Vitamin E Supplement, Niacin, Thiamine Mononitrate, Vitamin A Supplement, Calcium Pantothenate, Riboflavin, Biotin, Vitamin B12 Supplement, Pyridoxine Hydrochloride, Folic Acid, Vitamin D3 Supplement), Fish Oil, Choline Chloride, Calcium Carbonate, Calcium Sulfate, DL-Methionine, Taurine, Vitamin E Supplement, L-Tryptophan, Natural Flavor, minerals (Ferrous Sulfate, Zinc Oxide, Copper Sulfate, Manganous Sulfate), L-Carnitine, preserved with Mixed Tocopherols and Citric Acid, Phosphoric Acid, Beta-Carotene, Rosemary Extract.

8. For the canned formulation, the ingredients list is more ideal in that the first 3 listed ingredients—liver, meat by-products, and chicken—all contain animal protein (Table 3). Liver is a very nutritious organ meat and a good source of animal protein, but the daily feeding of a pet food containing liver as the first ingredient might be questioned.

It is very unclear why there is such a discrepancy in protein sources between the dry and canned formulations of the y/d diet. If Hill's can provide animal-based proteins for the canned version, why can't it be done for the dry y/d?

#### Table 3: Label Ingredients for Canned y/d Feline Thyroid Diet

Water, Liver, Meat by-products, Chicken, Whole Grain Corn, Rice Flour, Chicken Fat (preserved with mixed tocopherols and citric acid), Chicken Liver Flavor, Powdered Cellulose, Calcium Carbonate, Fish Oil, Dried Yeast, Potassium Chloride, L-Lysine, DL-Methionine, Guar Gum, Vitamin E Supplement, Taurine, Choline Chloride, Salt, L-Cysteine, Thiamine Mononitrate, L-Carnitine, Dicalcium Phosphate, Ferrous Sulfate, Zinc Oxide, Ascorbic Acid (source of vitamin C), Niacin, Copper Sulfate, Manganous Sulfate, Pyridoxine Hydrochloride, Beta-Carotine, Calcium Pantothenate, Vitamin B12 Supplement, Riboflavin, Biotin, Vitamin D3 Supplement, Folic Acid.

#### **Could Iodine Deficiency Contribute to Hyperthyroidism?**

Ironically, recent studies suggest that iodine deficiency may be one of the causes for hyperthyroidism in cats, and that the development of the disease can be reduced by providing diets that are adequately supplemented with iodine (38). If this is true and iodine deficiency does contribute to the development of autonomous thyroid gland pathology, feeding y/d diet and other restricted dietary iodine diets could enhance the development of the thyroid disease in euthyroid cats fed the diet.

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Willow the cat from Colorado reunites with Chris, left, and Jamie Squires, right, and their children Jack, 10, Shelby, 17, and Lauren, 3 after being found by ACC in NYC.

Mary Altaffer/AP