



# THE WINN FELINE FOUNDATION

For the Health and Well-Being of All Cats

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## HEALTH NEWS #7

Summaries by Betty White 4/05

***DVM Newsmagazine, December, 2004, "Allerca Unveils Allergen-Free Feline."*** Managing Editor David Frabotta discusses the role veterinarians will have in certifying the health of the allergen-free cats developed by Allerca, Inc. The company purports to have silenced the gene that produces the encoded allergenic protein Fel d1 and will have allergen-free felines ready for new homes by 2007. Despite the prohibitive price (\$3500 each), Allerca reports that it has received over 500 individual deposits of \$250 as down payments for its projected "lifestyle pets." They do not anticipate that the supply will meet the demand, even if the company meets its goal of 200,000 cats by 2010. Allerca will need about 7500 veterinarians nationwide to certify the good health of the animals, to establish a continuing-care regimen, and to release them to their new owners. The first of the cats to be provided will be British Shorthairs, according to Simon Brodie, president of Allerca. He stated that preliminary polls of interested consumers indicate an interest in the Maine Coon as the next allergen-free cat.

Welfare groups are not happy. They state that allergies are not the main reason owners relinquish cats, but rather divorce, moving, clawing of furniture, or litter box issues. They worry that the number of animals in shelters will increase.

It is entirely possible that Allerca may never produce these cats, as studies are still ongoing to determine the long-term health of the cats. While heterodimeric glycoprotein is believed to be redundant in felines, Allerca will not produce any felines until the company is completely sure that the cats are allergen free and healthy. Should it be proved that cats require Fel d1, they still will produce a small amount, Brodie says. "One of the reasons that we chose gene silencing is that it silences it, but it doesn't keep it totally quiet," he says. "It does produce a tiny amount of protein. If it turns out that the cat does need that particular protein, then the gene is still expressing the protein, but not at the level that would affect allergy sufferers."

***Nature Medicine, March 27, 2005, "A Chimeric Human-Cat Fusion Protein Blocks Cat-Induced Allergy."*** Daocheng Zhu, Ke Zhang, Tetsuya Terada, Takechiyo Yamada and Andrew Saxon, researchers at the UCLA School of Medicine, and Christopher L. Kepley of Virginia Commonwealth University report on their work with a newly-developed protein, part cat/part human, that holds promise in treating human allergy to cats. At present, allergy treatment involves giving small doses of an allergen over time to retrain the immune system to recognize the allergen. This can take years. In much the same way, the new protein was used to retrain the immune system. It was injected into mice genetically engineered to be allergic to cats and the results were dramatic. The mice were cured within a month. Indications are that the protein retrains the immune system to recognize the allergen (the cat protein), but prevents any ill effects (the human protein). This new approach makes possible a cure for cat allergy in months as opposed

to years. [*Editor's Note: One wonders how this research will impact the production of allergen-free cats!*]

***American Journal of Veterinary Research, December, 2004, "Effects of Dietary Fat and Energy on Body Weight and Composition After Gonadectomy in Cats."*** This study involved 24 cats, 12 males and 12 females. Researchers P. G. Nguyen, DVM, MS, H. J. Dumon, DVM, MS, B. S. Siliart, DVM, MS, L. J. Martin, DVM, PhD, R. S. Sergheraert, and V. C. Biourge, DVM, PhD evaluated the effect of dietary fat and energy density on body weight gain, body composition, and total energy expenditure in neutered and sexually intact cats. After neutering or spaying half the cats, all were fed either a low fat or a high fat diet for 26 weeks. Body weight was monitored weekly throughout the study, and body composition and total energy expenditure were measured both before surgery and at the end of the study. Neutered cats gained significantly more body fat and body weight than sexually intact cats, but cats fed the low fat diet gained less than those fed the high fat diet. Following correction for body composition, total energy expenditure was similar in all groups. There appeared to be no pattern towards increased food intake. The conclusion reached was that a low fat diet is best for cats after neutering, and the cats should be fed in controlled meals rather than allowed to free-feed.

***Journal of the American Animal Hospital Association 40:468-478 (2004), "Transdermal Fentanyl patches in Small Animals."*** The potent opioid, fentanyl citrate, can be administered transdermally. Erik H. Hofmeister, DVM and Christin M. Egger, DVM, MVSc, Diplomate ACVA reviewed publications regarding transdermal fentanyl patches with the criteria of seven studies each in cats and dogs. Cats were shown to reach effective plasma concentrations approximately 7 hours after patch application, while dogs achieved effective concentrations approximately 24 hours later. Further, transdermal fentanyl produced analgesia equivalent to intermittent butorphanol administration for up to 72 hours following each application in cats.

***Journal of the American Veterinary Medical Association, November 1, 2004, "Time and Financial Costs of Programs for Live Trapping Feral Cats."*** Felicia B. Nutter, DVM, Michael K. Stoskopf, DVM, PhD, DACZM, and Jay F. Levine, DVM, MPH, sought to determine the costs in time and money of programs for the live trapping of feral cats, and also sought to assess whether allowing cats to become acclimated to the traps improved trapping effectiveness. The study encompassed 107 feral cats in 9 colonies. Setting 15 traps at each colony for 5 consecutive nights, the researchers then set 5 traps per night until trapping was complete. Traps were immediately baited in 4 colonies, while the traps in the remaining 5 colonies were left open and cats were fed in the traps for 3 days prior to the beginning of trapping. The percentage of cats captured per colony (mean overall trapping efficiency) was  $98.0 \pm 4.0\%$ . Whether or not the cats were acclimated produced no significant differences in trapping effort or efficiency. However, costs of the colonies with an acclimation period were considerably higher. These results suggest that live-trapping procedures are effective and that acclimation does not significantly improve results while it increases the costs.

***Veterinary Practice News, December, 2004, "Sensible Supplements for Immunonutrition."*** Alice Villalobos, DVM, makes the case in this article for anticancer supplements to improve cancer patients' physical conditions, quality of life, and survival times. She asserts that the results of her treatment regimes in her own practice over the

past 12 years have been impressive. While the scientific community is taking a closer look at some of these natural compounds, it is difficult to reach consensus because these products are not regulated. Many of these compounds (38%) that have been evaluated failed to meet their label claims. The National Cancer Institute has formed a Chemoprevention Branch to fund studies testing the efficacy of some “nutraceuticals” in populations of susceptible and high-risk patients.

While at Colorado University, Gregory Ogilvie, DVM, Dipl. ACVM, studied the theory that cancer cells survive best on sugars and carbohydrates. Hill’s Pet Nutrition formulated a diet high in protein, fatty acids and l-arginine, and low in carbohydrates and sugars. Following the concept, “Feed the patient and starve the cancer,” the diet was found to prolong remission. It is currently available as Hill’s n/d or neoplasia diet. To avoid diarrhea, it is advised to gradually blend n/d into the pet’s regular food.

***News Release, University of Florida, January 6, 2005, “Good Breeding Means Good Planning: UF Launches Small Animal Reproduction Service.”*** In an effort to help animal breeders better manage reproduction-associated diseases and improve pregnancy success rates, the University of Florida College of Veterinary Medicine has launched a new service focused solely on small animal reproduction. “We will offer cutting-edge methods to diagnose and treat both reproductive diseases and infertility cases in male and female animals, mostly dogs and cats,” said John Verstegen, DVM, PhD, who heads the service in partnership with his wife, Karine Onclin, DVM, PhD. Verstegen is a founding member of the European Society for Small Animal Reproduction and of the European College for Animal Reproduction. The doctors hail from Belgium, where they worked at the University of Liege. The couple plans to offer breeders a variety of hormone tests as well as vaginal smears, vaginoscopy, uterine endoscopy and endoscopic uterine drainage. They also plan to provide sonography of the reproductive tract. The service’s main activities will include pregnancy monitoring through Doppler ultrasonography, endocrine testing, parturition monitoring and neonatal care.

***American Journal of Veterinary Research, February, 2005, “Effects of Interferon-alpha on Cytopathic Changes and Titers for Feline Herpesvirus-1 in Primary Cultures of Feline Corneal Epithelial Cells.”*** As the title suggests, this study examines the efficacy of interferon-alpha in treating corneal epithelial cells. Lynne S. Sandmeyer, DVM, DVSc, Charlotte B. Keller, DVM, and Dorothee Bienzie, DVM, PhD worked with the healthy eyes taken from 10 recently euthanatized cats. Cultures were grown and then examined every 24 hours for evidence of cytotoxic changes. Viable cell counts and the percentage of viable cells were determined 48 hours after the cultures were initiated. Separately, cultures of corneal cells were inoculated with feline herpesvirus and cultured for 72 hours both with and without interferon-alpha. These feline herpesvirus cultures were then evaluated for viral-induced cytopathic effects and the viral titers were determined. Interferon-alpha produced no cytotoxic effects on corneal epithelial cells at concentrations ranging from  $10^2$  to  $10^6$  IU of interferon-alpha/mL. However, cytopathic changes and feline herpesvirus-1 titers were significantly reduced by interferon-alpha at a concentration of  $10^5$  IU/mL. This lack of cytotoxic effects and efficacy of interferon-alpha against feline herpesvirus-1 in vitro led the researchers to conclude that the therapeutic effects of interferon-alpha should be assessed in controlled clinical trials of living cats.

*Veterinary Practice News, January, 2005, "Managing the Feline Diabetic Cancer Patient."* Elizabeth Hodgkins, DVM, discusses the dilemma of veterinarians faced with prescribing treatment for cats with multiple medical conditions where the treatment for one contradicts the required protocol for another. In this case, she addresses the diabetic patient with cancer, when the best treatment for that cancer is corticosteroids. It is well known that the use of corticosteroids can precipitate diabetes in the healthy predisposed individual, whether human or animal. An understanding of the cat's particular metabolic and nutritional characteristics may suggest methods to reduce this therapeutic contradiction. The wild progenitors of the domestic cat evolved in an environment sparse in carbohydrates but rich in protein. This led over time to a unique dependence upon protein for structural development and repair as well as energy production. In fact, the cat is somewhat intolerant of high levels of carbohydrates. Most of the cat's circulating glucose is produced as needed by the liver; also, the feline pancreas is relatively unequipped to handle large surges of glucose, fructose, sucrose or other saccharides from the diet. Highly processed diets rich in these ingredients stress the feline metabolic system, and exacerbate other stresses on the liver and pancreas. While it may be impossible to remove the corticosteroids from the chemotherapeutic regimen of the cancer patient, it is certainly possible to reduce or eliminate the amount of processed carbohydrate in the feline's diet. Dry food should be eliminated from the diet in favor of canned. Most canned foods are high in protein, moderate in fat, and low in carbohydrates. It should be noted that dry foods are highly addictive, so there will be a period of transition to canned food. However, all but a very few cats will eventually adapt to the new diet if offered an appealing variety.

*Journal of the American Veterinary Medical Association, September 15, 2004, Determination of the Dosage of Clomipramine for the Treatment of Urine Spraying in Cats.*" This multicenter clinical trial by Novartis Animal Health Inc. of Basel, Switzerland, involved researchers J. N. King, J. Steffan, S. E. Heath, B. S. Simpson, S. L. Crowell-Davis, L. J. Harrington, A. B. Weiss, W. Seewald, and the CLOFUS Study Group. There were 67 neutered cats in the trial with a history of spraying urine against vertical surfaces at least twice per week for a minimum of one month. The cats were randomly assigned to be treated with a placebo or with clomipramine at a dosage of 0.057 to 0.11 mg/lb, 0.11 to 0.23 mg/lb, or 0.23 to 0.45 mg/lb orally every 24 hours for up to 12 weeks. Before treatment began, the four groups of cats averaged 0.9 to 1.3 urine mean spraying events per day with a mean percentage of days ranging from 62% to 69%. All dosages of clomipramine resulted in significant reductions in frequency of spraying compared to the cats receiving a placebo, although sedation occurred in 27 of the 50 cats treated. For cat with urine spraying, the researchers recommended an initial dosage of 0.11 to 0.23 mg/lb of clomipramine orally every 24 hours.