

THE FELINE HUNTER: PLAY AND FEEDING

Is Your Cat Anxious? Is Anxiety Making Her Sick?

Most of us feel our indoor cats have stress-free lives. After all, they sleep most of the day, have food and water readily available, and live in a warm, safe environment. Unfortunately, this seemingly comfy existence is not the life cats evolved to lead, and there is growing concern this contributes to illness.

Indoor Cats are Stressed Cats

Unlike dogs, these descendants of *Felis lybica*, the African wild cat, never became truly domesticated. Historically, their primary function in human society has been as rodent hunters, which required little genetic selection or divergence from the nature of their wild ancestors.

By their nature, our cats are **solitary** creatures, used to **ranging over large areas** of land, **hunting 10-20 times per day** for their small prey, while keeping an eye out for animals that prey on them in turn. They are aided largely by an acute sense of smell. Contrast this nature with a reality of having your food presented in a bowl, living within a few hundred square feet, often sharing that limited space with other cats, and being exposed to many strong fragrances like perfumes and cleaners.



Stress Can Make Our Cats Sick

A growing number of veterinarians are concerned that this discordance between nature and reality not only greatly reduces our cats' quality of life, but also compromises their physical health. Professor Tony Buffington of Ohio State University is researching "Pandora Syndrome" in cats. He argues that many cats live in a near constant state of anxiety, and that this anxiety activates many neural, endocrine and immune processes. These chronically activated processes can lead to many forms of illness. These include: chronic bladder discomfort and litter box problems; picky eating, intermittent vomiting and diarrhea; painful dental resorptive lesions (aka kitty cavities); overgrooming and skin irritation.



How Can We Reduce Our Cats' Stress?

Obviously, it's pretty upsetting to think we might be making our cats sick by keeping them indoors. We are not arguing you should let your cats outside! Over half of the staff at Best Friends have cats that live indoors, and the risks of outdoor living are significant! Rather, we are working to improve our cats' lives by making their

indoor life a closer match to their "wild" nature.

The Five Pillars of a Healthy Feline Environment

- 1) Provide ready access to spaces that make your cat feel safe. These should include:
 - A **high-up perch**, from which she can monitor potential threats
 - A **semi-enclosed space**, where she is concealed but can still monitor potential threats
 - If you have more than one cat: ensure each cat has a separate safe place and each safe place has one more than one entrance/exit.
- 2) Provide multiple & separated key environmental resources.
 - You should have separate spaces for each environmental need: litter box, food and water bowls, play area, resting area, and scratching area.
 - If you have more than one cat, **each cat should have their own separate space for each need.**
 - This matters because **cats will only enjoy living with other cats if they are not worried about other cats controlling limited resources.**
 - Make sure each cat's resources are located far enough apart from those of other cats so there is no perceived threat or conflict.
 - Your cats probably are stressed by their housemates if they do not participate in some of the following behaviors: facial/body rubbing, tail wrapping, sleeping together, playing together, and grooming one another.
- 3) Provide opportunities for play and predatory behavior.
 - **Stop feeding your cat from a bowl.** Feed all meals from "food puzzles," to increase playing and "hunting" behavior. We sell them here or you can make your own.
 - Have play sessions that mimic hunting (e.g. a wand with fur/feathers or large, soft toys that can be raked with the back claws and bitten) and reward with a treat following play.
 - **Rotate through toys (and food puzzles)** so your cat doesn't have a chance to get bored.
- 4) Provide positive, consistent human-cat interaction.
 - Let your cat decide when it wants to interact with you. Look for these welcoming signs: slow blinking, purring, facial rubbing or head bunting, climbing in your lap, relaxed roll to expose belly.
 - If you have more than one cat, give each cat attention away from other cats.
- 5) Provide an environment that respects the importance of the cat's sense of smell.
 - Cats use olfactory and chemical information to assess their environment and to establish their territory.
 - **Avoid scented materials, such as air fresheners, scented cleaners, potpourri, etc.**
 - When bringing new objects into your home, rub them with your cat's bedding or spray with the pheromone Feliway.



- If your cat likes rubbing its face on parts of your home, don't clean those areas.
- **Make sure your cat has a variety of scratching areas.** Cats have scent glands in their feet that allow them to mark areas. Make sure your cats have both vertical and horizontal surfaces, rope and cardboard options. If your cat is scratching your furniture, let us know; we can help you redirect your cats' scratching.

Here are some resources for reducing your cats stress and helping them live long, happy, healthy lives:

- Food Puzzles for Cats (foodpuzzlesforcats.com)
- Ohio State University Indoor Pet Initiative (<https://indoorpet.osu.edu/cats>)
- Feliway (feliway.com)
- *Catify to Satisfy*, a book by Jackson Galaxy & Kate Benjamin



Feeding the Feline

Many cat owners don't have a good understanding of how cats are designed to eat. We expect cats to eat meals like people do! Cats, however, are designed to eat many small meals in a day, not two or three large ones. If a cat eats a few bites and then walks away from the food bowl, many cat owners assume this must mean their cat doesn't like his food, or perhaps is ill. Cat owners often keep offering different foods, trying to find something the cat likes better – but it's normal for cats to eat many small meals each day.



Cats evolved to eat mostly mice. A single mouse contains about 30 calories, which is equal to about 10 kibbles of dry food. An indoor cat can be expected to wander over to the food bowl and eat a mouse-worth of food at a time, multiple times a day.

A wild cat needs to hunt, kill and eat 8-10 mice per day. (Half of their attempts to catch prey are failures.) Hunting usually entails a few hours of effort around dawn

and another few around dusk, with sleep occurring during the middle of the night and the middle of the day. Cats are more likely to engage in play behavior during the evening and early morning hours, the times of day they would naturally be out hunting.

In our homes, these activity periods can be very brief, falling far short of the amount of energy an outdoor cat would expend to catch its dinner. Cats often need encouragement and help on our part to play longer and harder. With little else to do besides eat, a couch potato feline will generally play too little and eat too much, especially if their human keeps offering tasty new foods, thinking they need to eat more.

Imagine you woke up every morning with absolutely nothing to do.

This is the situation most of our pets are faced with. Hunting isn't a chore to a cat, it's what they were designed to do. Without it, they are inclined to be bored and restless. They may wander the house, crying or pestering. We tend to reward this seeking behavior with food

or petting, neither of which satisfies a cat's instincts. Exercise and play are what we should be providing instead.

Hunting burns calories, as do other activities that indoor cats don't generally participate in, such as keeping warm in winter, staking out a territory and raising young. An indoor spayed or neutered cat generally needs many fewer calories. Cats are small creatures. They don't need a large volume of food. Just ½ oz. of canned cat food or 10 extra kibbles a day will cause a cat to gain one pound weight each year, quickly leading to obesity.

In fact, the majority of pet cats in the U.S. are overweight or obese. This has led to high rates of diabetes, arthritis and cancer, as well as a two year shorter average life expectancy.



Reading the Pet Food Label

The ideal diet for most cats is about 50% protein and less than 12% carbohydrate, calculated on a dry matter basis. This is not how the government requires a guaranteed analysis to be measured on a pet food label, so it is impossible to choose a pet food based on what is stated on the can or bag.

For example, a package is required to list only maximums and minimums, not true amounts – so you may see “Min. protein 22%,” which means it could be 22% or 32% or 82%. This also only tells you a percentage **before the water is cooked away**, so once the food is processed this percentage will be completely different, especially for dry foods. In other words, the ingredients like meat contain lots of water, while dry ingredients such as grains contain very little water. The amount of meat protein in the finished product, without the water, in reality is much lower than what is stated on the label.

This percentage protein number also doesn't give you a clue about the quality or digestibility of the protein, which varies greatly. Tendons, feathers and shoe leather all contain lots of protein but none are digestible, so that protein is not available to the animal that might eat those things. Many inexpensive canned cat foods contain lots of poor-quality protein – the gristle leftover after the white meat has been removed.

Important ingredients that influence health and longevity, such as medium-chain triglycerides, antioxidants, long chain omega-3 fatty acids, prebiotic fiber and arginine, are not listed on labels at all. You might see some of them touted on labels, but this can also be deceiving. For example, flax seed is often listed as an ingredient that provides Omega-3 fatty acids. Cats and dogs don't make the enzymes to digest flax seed, however, so it is useless as a source of nutrition.

Cats eating a diet with good levels of these ingredients have a 1 year longer life expectancy.

Feline Protein Requirements

Proteins are made of amino acids. Not only is there a requirement for protein in general, but our bodies need adequate amounts of each individual amino acid as well. Legumes such as lentils or peas are used as carbohydrate sources, and also to supply protein and fiber. Legumes are high in both—but they're limited in sulfur-containing amino acids.

Protein sources that have a lower concentration of sulfur amino acids can lead to nutritional deficiency over time. For example, in the 1980s, the amino acid taurine was found to be an essential nutrient, especially in cats. Taurine deficiency causes heart disease.

Cats have a high requirement for protein, especially for amino acids found in animal tissue but not plants. Some grain-free diets that are on the market aren't very high in protein because they tend to have more unusual or exotic, and therefore more expensive, protein sources. The companies that make them often rely on legumes or tubers for a large proportion of the protein and amino acids in their diets. This is a marginal approach to take when feeding cats, who need a lot of amino acids that can only be supplied with animal protein.

Did you know that “meat meal” means the protein portion of the meat with the fat and water removed?

Not only must the sum total of the ingredients in a diet contain enough of each amino acid but the ingredients must be cooked or processed adequately to release them. Proper processing is essential to maximize amino acid digestibility, especially in legumes.

Legumes contain some anti-nutritional factors, too - things like trypsin inhibitor and phytate. We can decrease the concentrations of those factors by heat treatment and processing of food. The amino acids lysine and methionine are both really sensitive to processing damage, however. We want to make sure that a pet food is cooked in a way that will maximize amino acid bioavailability without being over-processed.

The fiber present in a food is also a factor in the availability of specific amino acids. Some types of fiber can bind with taurine, the amino acid essential for heart function. Even if there is theoretically enough of a certain amino acid in the ingredients used, putting the whole ingredient panel together may lead to deficiencies because certain nutrients bind to each other.

While they do better with larger amounts of protein in their diets, cats should receive less carbohydrate than dogs and humans. Your feline friends feel full and satisfied when they eat more protein, while obesity and diabetes can result from a diet high in carbs.

If this all sounds complicated, that's because it is! The American Association of Feed Control Officials (AAFCO) publishes guidelines that pet food companies use when formulating diets. It is not a requirement for manufacturers to have a nutritionist formulate the food, and in fact, most companies don't. **Most pet food manufacturers simply put a bunch of ingredients together that add up to sufficient amounts of nutrients on paper – but that doesn't guarantee that nutrition is still adequate in the finished product.**

AAFCO nutrient amounts are minimums, so your pet may become nutrient-deficient due to illness, stress, age or other problems that increase nutrient demands.

By-Products in pet food

Many cat caretakers have the perception that by-products are bad ingredients to have in pet food. This is not the case. It's not legal to use parts of the chicken such as feet, beaks and feathers. Most by-products are internal organs, especially livers, hearts and spleens. Both of these actually provide high-quality nutrition. Poultry by-product meal is a **good** thing!

Taurine, that amino acid that is required for heart function, is only found in heart muscle. If taurine is not provided via animal hearts, an artificial substitute must be added instead. The

same is true for the liver – without including the liver, a pet food company must add artificial vitamins A, D, E and K, along with iron and fatty acids. Why not simply include the internal organs in the first place, especially since they will otherwise go to a landfill?

Keep in mind, too, that there are no vitamin manufacturers in the U.S. anymore. All vitamin mixes used in pet food are imported. Many an imported ingredient or vitamin mix has been the problem in pet food recalls.

Instead of blanket bans on ingredients such as by-products, a good pet food company carefully formulates and tests each product to be sure the ingredients are safe and the finished product has a nutritional profile that exactly matches what pets need.

Choosing a Pet Food

So what do we recommend you feed your dog or cat?

- 1) We want a diet manufactured in the company's own plant, not in a giant production facility that makes diets for dozens of different brands. This ensures the company has control of the ingredients, the processing and the cleanliness of the plant.
- 2) We want one formulated by a nutritionist – that means a PhD in animal nutrition or a veterinarian board-certified in small animal nutrition. Nutrition is way too complicated to formulate on paper from a chart.
- 3) We want ingredient testing before those ingredients go into the food – for purity, for heavy metals, for fat and water content, for fiber balance and a host of other things.
- 4) We want the company to perform and publish nutritional research.
- 5) We want feeding trials, where the food is fed to live dogs who are tested and monitored for things like heart disease and kidney failure.

There are only four pet food companies that do all this. Our four brands are:

- Hill's, makers of Science Diet, Healthy Advantage and our most-prescribed line of prescription diets for specific diseases and problems.
- Purina, specifically ProPlan, which is their premium pet store line of foods, and Purina's therapeutic diets, again for specific diseases and problems.
- Iams, specifically their Eukanuba pet store line.
- Royal Canin, which makes breed-specific diets that are tailored to meet the needs of specific types of dogs and whose therapeutic diets we also highly recommend.
- If you want to purchase your pet food in the grocery store, we suggest Iams and Purina ONE.

Visit our YouTube channel, BFVCTV, for videos on choosing safe toys and treats, nutrition and many other aspects of pet health care!

For information on specific parameters for 240 different brands, check out the Pet Nutrition Alliance “Dare to Ask” program at www.petnutritionalliance.org. If you look at the data you will see that many pet food companies would not answer any of the Alliance's questions. You should assume from this that they do not meet our criteria for a good quality diet.

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