While shelters can’t always feed their cats the equivalent of a five-star meal, providing proper nutrition is a key element of kitty care.

Nutrition has a profound impact on animal health. Not only is it essential for management of body weight and condition, good nutrition also supports immune function—a particularly important factor in a shelter setting. Keeping in mind that cats are true carnivores, it’s no wonder that they possess much higher protein requirements than do dogs and humans. They also lack the ability to synthesize essential nutrients like taurine and vitamin A, which would have been present in their prey. This makes it crucial to feed cats only nutritionally complete, commercially prepared feline diets specifically designed to meet their unique nutritional needs. And of course, clean fresh water should always be available.

That’s just the beginning. Here’s a guide to help you keep your cats well-fed, trim, and healthy.

Dinner in the Wild
The ancestors of domestic cats hunted to eat, typically feeding many times each day—whenever they captured a bug or other prey. This style of feeding behavior is still preferred by many domestic cats who like to nibble throughout the day and night, consuming many small meals.

That said, most cats are capable of adapting to either free-choice or meal feeding. There are advantages and disadvantages to each approach.

Free-choice feeding is a method where food is always available, so the animal can eat as much as she wants whenever she chooses. Dry food should be used for this method of feeding, as canned products left at room temperature are prone to spoil.

The major advantage of free-choice feeding is that it is quick and easy: Caregivers simply need to ensure that fresh dry food is always available. Major disadvantages include the fact that animals who are not eating may not be spotted for several days, especially when cats are being fed in a group. Some animals may choose to continually overeat and become obese.
they are sanitary, inexpensive, easy to use, and disposable. In addition to offering food in the usual way, you can also try some methods to encourage “pseudopredatory activity”—this can be used as a source of enrichment for some cats. For example, dry cat food or treats can be hidden in commercially available food puzzle toys, or in cardboard boxes, tubes, or rolling toys with holes, so that the cat has to work to extract pieces of food. This method of feeding may be a very useful addition, especially for those cats housed for more than a couple of weeks.

Which Food Works Best?
Many shelter staff wonder whether to feed a regular commercial brand of cat food or a premium brand diet. Compared to regular commercial brands, premium diets typically are more consistent in their ingredients, have a higher calorie content, and some are more highly digestible, resulting in less fecal output. But such brands are usually more expensive than other commercially available feeds, and the cost may not be justifiable in a shelter setting. Whatever brand is selected, it should be one that has been through feeding trials to validate its nutritional adequacy. You can determine this by checking the label, which should state that the diet is adequate for the life stages indicated based on the Association of American Feed Control Officials (AAFCO) feeding trials.

Although some cats tolerate changes in food without apparent problems, others may experience loss of appetite and/or gastrointestinal upset. For this reason, it is generally best to provide the most consistent diet possible. Some pet food companies offer feeding programs, providing a consistent food for purchase at a special rate for shelters. However, some shelters rely heavily on donations of food. In these cases, shelters should try to request donations of certain brands, which will enable them to provide a consistent diet whenever possible. You can also mix donated foods with the shelter’s usual feed to minimize problems caused by abrupt diet changes while taking advantage of donations.

Regardless of food type, proper storage—away from heat and humidity, especially for canned foods as they are sanitary, inexpensive, easy to use, and disposable. In addition to offering food in the usual way, you can also try some methods to encourage “pseudopredatory activity”—this can be used as a source of enrichment for some cats. For example, dry cat food or treats can be hidden in commercially available food puzzle toys, or in cardboard boxes, tubes, or rolling toys with holes, so that the cat has to work to extract pieces of food. This method of feeding may be a very useful addition, especially for those cats housed for more than a couple of weeks.

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A cat’s appetite is closely related to his sense of smell, so the nasal congestion that occurs with URI will often result in loss of appetite. Offer these cats canned foods; they typically smell stronger than dry food and are easier to swallow.

Proper nutrition is especially important during times of stress or illness, since malnutrition compromises immune function, making animals more prone to infectious disease. Both appetite and stool quality should be monitored daily, and abnormalities should be tracked. Normal stools should be well-formed and medium to dark brown. Adult cats typically defecate once daily, although healthy adults may defecate anywhere between twice a day and twice a week. Kittens tend to produce a larger volume of stool more frequently, which is often lighter in color and softer formed than that of adults. Simple scales can be used for

**How Much Should We Feed?**

There are formulas for calculating the daily energy requirements of cats based on their body weight, age, or life stage and activity level (see below). These formulas are meant to serve as guidelines and not absolutes; they are starting points that must be adjusted to suit the unique metabolic requirements of each individual to maintain a healthy body condition. The specific calorie content of various cat foods can usually be found via simple Internet searches. In general, the calorie content ranges from 350-500 kcal per cup for dry food and 120-190 kcal per 5.5-ounce can of wet food. As a rule of thumb, treats should compose no more than 10 percent of the animal’s total daily intake.

<table>
<thead>
<tr>
<th>Life stage and activity level</th>
<th>Kilocalories required per day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very active adult</td>
<td>80 kcal X body weight in kg</td>
</tr>
<tr>
<td>Moderately active adult</td>
<td>70 kcal X body weight in kg</td>
</tr>
<tr>
<td>Inactive adult</td>
<td>60 kcal X body weight in kg</td>
</tr>
<tr>
<td>Kitten 2-5 months of age</td>
<td>250 kcal X body weight in kg</td>
</tr>
<tr>
<td>Kitten 5-7 months of age</td>
<td>130 kcal X body weight in kg</td>
</tr>
<tr>
<td>Kitten 7-12 months of age</td>
<td>100 kcal X body weight in kg</td>
</tr>
<tr>
<td>Adult pregnancy</td>
<td>1.25-1.5 X adult maintenance last trimester</td>
</tr>
<tr>
<td>Adult lactation</td>
<td>2-3.5 X adult maintenance</td>
</tr>
</tbody>
</table>

From Linda P. Case’s *The Cat: Its Behavior, Nutrition and Health.*

**Calculation of Calorie Requirements for Weight Gain**

Record baseline body weight and body condition score

1. Resting energy requirement at present weight (RER) = 30 X body weight in kg + 70
   
   30 x (PRESENT WEIGHT KG) + 70 = (RER) kcal / day

2. Daily energy requirements for weight gain (DER) = RER (DESIRED WEIGHT) X 1.3 (WEIGHT GAIN FACTOR)
   
   30 x (DESIRED WEIGHT KG) + 70 = ______ kcal / day X 1.3 = DER for weight gain
   
   - Start feeding at 50-100 percent RER at present weight, divided into 4 meals over the day.
   - Increase amount fed by approximately 25 percent each day to reach DER for weight gain.
   - If cat is doing well clinically after the initial 48 hours, feedings may be increased a little more rapidly.
   - Record body weight daily for the first week, then biweekly or weekly as indicated based on cat’s progress.

Cats should be weighed at intake and have their body condition scored then and at routine intervals throughout their shelter stays. Ideally, body weight should be recorded at intake, and then weekly during the initial month of shelter care. After a month, it can be recorded once a month, or more often as indicated by the animal’s condition. This is especially important for cats, since significant weight loss may be associated with stress or upper respiratory infection during the first few weeks of confinement.

On the other hand, in some cats housed long-term, excessive weight gain may occur. Therefore, protocols must be in place to identify and manage unhealthy trends in body weight, since both weight loss and gain can compromise health and well-being.

Sick, or Just Finicky?
Cats may lose their appetite or refuse to eat due to illness or stress. As a result, they risk the development of severe complications. Small kittens (especially those less than 4 months of age) can suffer from hypoglycemia (low blood sugar), resulting in weakness and even death. Hand-feeding (including syringe-feeding) young kittens can be lifesaving, provided they swallow the food; in some cases, it may help to jump-start their appetites.

If kittens refuse food for more than a day, seek veterinary attention. If you have the resources and know-how, syringe-feeding may help, but if additional resources for focused care are not available, consider humane euthanasia to prevent needless suffering. If small kittens don’t eat, you need to act fast, because they will go downhill quickly. Adult cats can go a few days without eating, but little kittens cannot.

While they can go longer without food than the youngsters, adult cats who do not eat at least half of their daily energy requirements for several days or more risk developing hepatic lipidosis (fatty liver), a life-threatening condition that causes liver failure and other metabolic problems that can lead to death without aggressive veterinary care. Rapid weight loss is a serious threat to health and welfare, and overweight cats are especially prone to developing hepatic lipidosis when they don’t eat. When adult cats refuse to eat for more than three to five days, they should be examined by a veterinarian. In some cases, force-feeding via syringe can help; however, it is difficult to feed a sufficient amount to meet feline caloric requirements. For example, an average 9-pound cat will require approximately 240 calories per day for maintenance (considerably more than a typical 5.5-ounce can of cat food).

Stress can also induce anorexia, resulting in hepatic lipidosis and liver failure. This is not uncommon, especially when timid housecats are housed in the shelter. This underscores the critical importance of both stress management and weight monitoring.

Appetite and URI: The Connection
A cat’s appetite is closely related to his sense of smell, so the nasal congestion that occurs with URI (coupled with a sore throat) will often result in loss of appetite.

To encourage their appetite, cats with signs of URI should be offered canned foods since they typically smell stronger than dry food and are easier to swallow. Selecting fishy smelling food and warming it slightly may help to stimulate the appetite of some cats. In addition, because canned foods are composed of approximately 80 percent water, they help promote normal hydration. It is usually easier to get sick cats to eat canned food than it is to get them to drink water.

Many shelters feed meat-based baby food to cats to stimulate their appetites, but only those foods that do not contain onion powder should be used. Onion powder is a common ingredient in some baby foods and can be toxic to cats, causing serious anemia.

To complicate matters, some cats (particularly adults) develop food aversions when they are ill. This occurs when they are continually offered foods and learn to associate the sight and smell of the food with feeling sick or nauseated. Consequently, they may refuse to eat even once they are feeling better. For this reason, when cats refuse to eat, it may be best to offer them food periodically, but not to leave it in their cage all the time. That said,
it’s important to allow shy cats (who may not eat in front of caregivers) an opportunity to eat in privacy. But leaving food next to them when they are sick may lead to food aversion in some cases.

**Too Fat or Too Thin**

Cats who are severely obese pose unique nutritional challenges. Deciding whether or not to institute a weight-reduction plan for such cats during their stays requires careful consideration.

To prevent overeating, controlled meal feeding is required for weight reduction. To accomplish this, an obese cat would probably need to be individually housed for at least a portion of the day for individual feeding. But individual cat housing may be very confining, and obese cats may benefit more if they are housed in a colony-style enclosure where they will likely get more exercise. However, this is confounded by the fact that free-choice feeding is generally preferred for colonies. Some combination of confinement for fixed-portion meals and communal housing to encourage exercise is ideal. Sometimes, compatible obese cats can be co-housed to facilitate both exercise and diet restriction.

Reduced-calorie cat foods and formulas for calculating calorie requirements for weight loss are available, but it often takes several months for cats to achieve meaningful weight loss. In addition to the logistical challenges, some obese cats will refuse novel low-calorie food in the shelter—and rapid weight loss is dangerous for obese cats. Obesity does not necessarily hinder a cat’s chances for adoption. Curiously, the popular “fat cat” image may even draw attention to overweight cats! In these cases, weight-reduction plans may best be left for the new owner, who should be educated on the risks associated with obesity for cats (e.g., diabetes) and instructed to consult a veterinarian for a safe weight-reduction plan once the cat has acclimated to her new home.

On occasion, cats who’ve been victims of starvation may enter the shelter, malnourished and underweight, or even in emaciated body condition. These cats should be examined by a veterinarian, and careful consideration should be given to possible causes of weight loss and poor body condition. If the cat is bright, alert, and readily eats when offered food, an in-shelter feeding program designed for weight gain can be implemented (see box on page 49). Vaccination and parasite control should be performed as usual on entry. In addition, other appropriate documentation (for example, lab work and photographs) should be obtained if the cat is part of a court case. If weekly weight gain does not occur or other symptoms arise, the cat should be further evaluated by a veterinarian. AS

**Resources**

For more on raising kittens in a shelter setting, see “Kittens: Coming Now to a Shelter Near You” in the July-August 2010 *Animal Sheltering*, available at animalsheltering.org/kittenseason.