Learning Objectives

After completing this module, your basic understanding should include:

- The role of wellness nutrition in helping adult dogs and cats live longer, healthier lives.
- Important nutritional factors for adult dogs and cats.
- The benefits of Hill’s® Science Diet® Adult pet foods.
- Nutritional recommendations to pet owners, using Science Diet brand products.
Introduction

Proper nutrition for adult cats and dogs emphasizes maintaining wellness and preventing disease. Although there are established links between certain nutritional excesses and chronic diseases in adult cats and dogs, the clinical signs of these diseases may not manifest themselves until pets are considered “seniors”. Proper feeding plans for adult cats and dogs, like those for puppies and kittens, should follow lifestage concepts, and reduce current and future risk factors. The feeding plan should also be adjusted when necessary, based on veterinary recommendations, and the concepts of understanding the importance of proper pet nutrition detailed in Level I.

This module will focus on adult dogs and cats. It has been designed to provide you with a variety of communication concepts, that will help you convey the importance of proper pet nutrition and the benefits of Hill's® nutritional products.

KEY COMMUNICATION

Although the link between food and chronic disease is important in adult cats and dogs, clinical signs of disease may not appear until pets enter their senior years.
A Review of Nutrition for Young to Middle-Aged Dogs

Young to middle-aged dogs are those that are full grown (about 12 months old), and not over seven years of age, (not over five years of age for giant breeds). The goals of nutritional management are to maximize longevity and quality of life (i.e. wellness). The most important health concerns of dogs in this age group are dental disease, obesity, and kidney disease; the prevalence of these diseases generally increases as dogs age. This module will not cover nutrition for reproduction and lactation. For more information about those topics see Level I, Module 2 (Feeding Dogs).

Figure 1. Major concerns regarding adult dogs include dental disease, obesity and kidney disease - all of which can be positively influenced with proper nutrition.

Important nutritional factors for young to middle-aged adult dogs include:

- Water
- Fiber
- Phosphorus
- Sodium/chloride (salt)
- Energy/fat
- Calcium
- Protein
Table 1 summarizes the role of these nutrients in maintaining health.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Water</th>
<th>Role in maintaining health</th>
</tr>
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<tbody>
<tr>
<td>Energy/fat</td>
<td>Clean, fresh water should always be available to prevent dehydration</td>
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</tr>
<tr>
<td>Fiber</td>
<td>Necessary to support adult activity levels, may need to be controlled if weight gain is a problem</td>
<td></td>
</tr>
<tr>
<td>Calcium</td>
<td>Helps maintain normal intestinal health</td>
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</tr>
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<td>Phosphorus</td>
<td>Often must be provided if homemade foods are fed</td>
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<tr>
<td>Protein</td>
<td>Controlled levels promote kidney health</td>
<td></td>
</tr>
<tr>
<td>Sodium/chloride</td>
<td>Supports healthy heart and kidney function</td>
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</table>

Total water intake (i.e., drinking water and water from food) is influenced by several factors such as environment, physiologic state, activity, illnesses, and food composition. In general, dogs self-regulate water intake according to need. Requirements may be met by allowing free access to a clean, fresh source of water. Also, canned dog foods provide much more water per weight than dry foods.

Recall from Level I that obesity occurs twice as often in neutered dogs than in reproductively intact dogs. Food intake should be adapted as needed to maintain optimal body weight and body condition.
Breed, neuter status, age, daily activity, environmental temperature, and coat characteristics markedly influence the daily energy requirement (DER) of dogs. All estimates of energy needs and therefore of food fed must subsequently be evaluated by body condition scoring and adjusted as needed. Prevention of obesity should be an important goal of each feeding program for young to middle-aged adult dogs.

Fats are an excellent source of energy, but a main requirement for fat is to supply essential fatty acids (EFAs). Ensuring an adequate intake of EFAs is key to maintaining healthy skin and coat. Increasing the amount of quality-sourced fat in foods increases palatability and EFA levels; however, energy content also increases.

Fiber reduces the energy density of the food and helps promote a sense of fullness. Some fiber in the food helps regulate healthy bowel function.
In general, grocery store dog foods contain adequate and sometimes excessive amounts of calcium and phosphorus. Therefore, these foods should not be supplemented with calcium or phosphorus. Because a portion of the middle-aged dog population seen in practice may be affected by undiagnosed kidney disease and because controlled phosphorus levels help promote kidney health, it is prudent to feed foods that are adequate but not excessive in phosphorus. Science Diet® Adult pet foods are excellent examples.

The amount of protein in dog foods varies widely. Excess dietary protein, above the amino acid requirement, is not stored as protein, but rather is detoxified by the liver and excreted by the kidneys, which may be harmful if a dog already has some level of kidney disease. The excess energy derived from this process is stored as fat.

It is important to meet but not greatly exceed sodium and chloride requirements for adult dogs, since excess sodium chloride may contribute to high blood pressure. Uncontrolled high blood pressure may lead to kidney, brain, eye, and heart damage.

Figure 2. Ammonia is formed when amino acids from proteins are metabolized. The liver converts toxic ammonia to urea, which is excreted from the body by the kidneys in urine.
Nutrient requirements of pets are met by a combination of nutrient levels in food and amounts fed. Even if a food has an appropriate nutrient profile, significant problems may result if excess or insufficient amounts are consumed. If the dog in question has a normal BCS (3/5), the amount being fed is probably appropriate, but many dog owners know very little about what nutrients are in the food they feed.

Free-choice feeding is popular and will suffice for healthy dogs unless weight control is an issue. Meal-restricted feeding is less popular and more time-consuming; however, it is more precise in delivering the required amount of food to maintain ideal weight and overall health.

Pet owners should be encouraged to weigh and record their dog’s weight every month, either at home or at your practice. Furthermore, they should be encouraged to discuss their pet’s nutritional needs with the veterinary health care team. Dogs whose nutrition is well managed are alert, have an ideal BCS (3/5) with a stable, normal body weight, a healthy coat, and normal blood and urine test parameters. Stools should be firm, well formed, and medium to dark brown.

Remember, dogs age more quickly each calendar year than humans. A veterinarian should reassess healthy dogs every six to 12 months, and the health care team can be involved with communicating any food changes or feeding adjustments.

Figure 3. BCS 3/5. The ribs are palpable with a slight fat cover. The tailbase has a smooth contour or some thickening. The bony structures are palpable under a thin layer of fat between the skin and bone. The bony prominences are easily felt under minimal amounts of overlying fat. Dogs over six months of age have a slight abdominal tuck when viewed from the side and a well-proportioned lumbar waist when viewed from above.
Science Diet® Adult pet foods are formulated to meet the nutritional needs of healthy adult dogs. There are a variety of different formulations of Science Diet Adult pet foods, each designed for specific adult dog and dog owner needs. Some of the general benefits are listed below. Remember, “benefits” answer a potential “so what?” and are the considered advantages “features” deliver.

Some general benefits of Science Diet Adult® formulas include:

- Highly digestible, firm stools, which facilitates easier clean up.
- Highly digestible, cost effective on a daily feeding basis.
- No need to supplement, no extra costs related to nutrition.
- Balanced nutrition and great taste, so dogs enjoy the feeding experience.
- Science Diet® Treats may nutritionally complement the Science Diet Adult food being fed, (but check for compatibility related to weight maintenance, special needs)...so no need to treat with other products.
- Variety of choices within the product line, including package sizes, canned and dry formulas, original and small bites, light, active, oral care, sensitive stomach and skin, naturally preserved ... depending on the dog owner’s preference and dog’s needs.
Benefits of Science Diet® Canine Adult Pet Food Products

• Promotes healthy skin and coat, which in turn helps promote physical contact and interaction with family members.

• Excellent selection for transitioning from a Science Diet Puppy pet food, maintaining optimal nutrition for the adult lifestage.

• Formulated by Hill’s Pet Nutrition, Inc., the same nutrition company that makes Prescription Diet® brand products for pet therapeutic nutrition needs. Helps reinforce the quality and concern that goes into developing all Hill’s® products, which can be used with confidence.

• More veterinarians feed Science Diet brand products to their own pets than any other brand-- products you can trust!

• 100% Satisfaction Guarantee (for all Hill’s® Science Diet® products): Product can be returned to the practice, (place of purchase) for a refund or replacement. (Hill’s will reimburse the practice).

Keep in mind also, that there are a number of benefits to your practice regarding the sales of Science Diet brand products. Examples include: More frequent client visits (bonding), the comfort of knowing you are providing an important part of wellness, ability to interact with the dog owner and answer questions, further educating the client on issues not adequately covered during exams, reinforce previous recommendations, the opportunity to promote other wellness products and services, the profitability of Science Diet brand pet foods to the practice…
Feeding Young To Middle-Aged Adult Cats

A Review of Nutrition for Young to Middle-Aged Adult Cats

Young to middle-aged cats discussed here, are those that are non-reproducing, full-grown, and greater than 1 year and less than 7 years of age. The goals of feeding adult cats are to maximize health (i.e. wellness), longevity, and quality of life. The most important health concerns of cats in this age group are dental disease, obesity, and undetected kidney disease. This module will not cover nutrition for reproduction and lactation. For more information about these topics see Level I, Module 3 (Feeding Cats).

Key nutritional factors for young to middle-aged adult cats include:

- Water
- Energy/fat
- Fiber
- Calcium
- Phosphorus
- Protein
- Sodium/chloride
- Magnesium
Table 2 summarizes the role of these nutrients in maintaining health.

<table>
<thead>
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<tr>
<td>Water</td>
<td>Clean, fresh water should always be available to prevent dehydration</td>
</tr>
<tr>
<td>Energy/fat</td>
<td>Necessary to support adult activity levels, may need to be controlled if weight gain is a problem</td>
</tr>
<tr>
<td>Fiber</td>
<td>Helps maintain normal intestinal health, aids in hairball transit in GI tract</td>
</tr>
<tr>
<td>Calcium</td>
<td>Often must be provided if homemade foods are fed</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>Controlled levels promote kidney health</td>
</tr>
<tr>
<td>Protein</td>
<td>Helps maintain strong bones and muscles</td>
</tr>
<tr>
<td>Sodium/chloride</td>
<td>Supports healthy heart and kidney function</td>
</tr>
<tr>
<td>Magnesium</td>
<td>Excesses may lead to urine crystal formation</td>
</tr>
</tbody>
</table>

For the most part, healthy cats self-regulate water intake according to need; however, they are less effective than dogs. Requirements may be met by allowing free access to a clean, fresh source of water. Increased water consumption tends to promote greater urine volume, helping to flush minerals from the urinary bladder before they have time to form crystals. Canned cat foods can also be a significant part of total daily water intake for cats.
Feeding Young To Middle-Aged Adult Cats

Neutering reduces the DER of adult cats by one-fourth to one-third, compared with that of intact cats. A reduction in DER without a reduction in food intake may lead to obesity, so food intake should be adjusted to maintain optimal body weight and condition. The energy needs for an individual cat are provided by the amount of food that will maintain ideal body condition (BCS 3/5) and stable weight.

Controlling energy intake is important for preventing obesity. About 25% of cats in the United States are overweight. The prevalence is highest in middle-aged cats. The risk of death in obese, middle-aged cats is nearly three times greater than that of lean cats; thus, preventing obesity is important for long-term health. Risk factors associated with obesity include: 1) middle age, 2) neuter status, 3) low activity, and 4) feeding high-fat, high-calorie foods.

Certain amounts of fiber promote normal gastrointestinal tract function. Cats may also have reduced vomiting of hairballs when foods with increased amounts of fiber are fed (e.g., Hill’s Science Diet Hairball Control® Adult and Science Diet Hairball Control® Light Adult).

Deficiencies of calcium and phosphorus are uncommon in cats fed commercial foods. Most cases of calcium deficiency occur in cats fed meats exclusively, (calcium concentrations are excessively low). Phosphorus excess is of greater concern for adult cats fed certain grocery store cat foods, especially for cats with kidney compromise. Cats with kidney failure are often not diagnosed until three-fourths or more of kidney function has been lost; therefore, it’s a prudent nutritional practice to not feed foods with excess phosphorus. Controlling dietary phosphorus helps promote kidney health.
Feeding Young To Middle-Aged Adult Cats

Meeting the minimum protein needs of cats is critical because their bodies have little ability to adapt to low levels of dietary protein. However, protein in excess of amino acid needs is rapidly broken down for energy and to maintain blood glucose levels, and any excess energy from protein will be stored as fat. Therefore, there is no benefit to feeding large protein excesses to cats. Taurine is a key amino acid for all feline lifestages.

Avoiding excess sodium chloride, ("table salt") is important in maintaining proper blood pressure.

Magnesium is an essential nutrient (mineral), but is also a major component of struvite urine crystals (magnesium-ammonium-phosphate) and a major type of urinary bladder stone. Magnesium in foods should be controlled. Keeping the urine pH in the range of around 6.2-6.4 also helps to maintain urinary tract health.

Nutrient requirements of cats are met by a combination of nutrient levels in food and amounts fed. Even if a food has an appropriate nutrient profile, significant problems may result if excess or insufficient amounts are consumed. If the cat in question has a normal BCS (3/5), the amount being fed is probably appropriate, but many cat owners know very little about the nutrient profile of the cat food they feed.

Figure 5. Struvite crystals are composed of the minerals; magnesium, ammonium and phosphorus. Microscopic view. Source: Small Animal Clinical Nutrition IV edition.

As a veterinary health care team member, feline owners will appreciate your guidance regarding the best nutrition for their cats.
Feeding an individual cat is often determined by food type, owner preference, owner schedule, other cats in the home, and feeding environment. Nutritional considerations for selecting an appropriate feeding regimen include the cat’s body condition, health status/disease risk factors, and the food’s energy density and palatability. Although free-choice feeding is most popular, it can lead to the most problems related to weight gain. Meal-restricted feeding is the preferred method, being more precise in delivering the required amount of food.

Feline owners should be encouraged to weigh and record the weight of their cat and assess its body condition every month at home or in your practice. Food intake should be adjusted as necessary to maintain optimal body condition. Cats whose nutrition is well managed are alert, have an ideal BCS (3/5) with a stable, normal body weight, a healthy coat, and normal blood and urine test parameters. Stools should be firm, well formed, and medium to dark brown.

Remember, cats age more quickly each calendar year than humans. A veterinarian should reassess healthy cats every six to 12 months, and the health care team can be involved with communicating any food changes or feeding adjustments.
Benefits of Science Diet® Feline Adult Products

Science Diet® Adult pet foods are formulated to meet the nutritional needs of healthy adult cats.

There are a variety of different formulations of Science Diet Adult pet foods, each designed for specific adult cat and cat owner needs. Some of the general benefits are listed below. Remember, “benefits” answer a potential “so what?” and are considered advantages “features” deliver.

Some general benefits of Science Diet Adult formulas include:

- Highly digestible, less odor, firm stools, which facilitates easier litter box clean up.
- Highly digestible, cost effective on a daily feeding basis.
- No need to supplement, no extra costs related to nutrition.
- Balanced nutrition and great taste, so cats enjoy the feeding experience.
- Variety of choices within the product line, including package sizes, canned and dry formulas, light, sensitive stomach and skin, oral care, hairball control, naturally preserved … depending on the cat owner’s preference and cat’s needs.
- Promotes healthy skin and coat, which in turn helps promote physical contact and interaction with family members.
Benefits of Science Diet® Feline Adult Products

- Promotes healthy skin and coat, which in turn helps promote physical contact and interaction with family members.
- Excellent selection for transitioning from a Science Diet Kitten pet food, maintaining optimal nutrition for the adult lifestage.
- Formulated by Hill’s Pet Nutrition, Inc., the same nutrition company that makes Prescription Diet® brand products for pet therapeutic nutrition needs. Helps reinforce the quality and concern that goes into developing all Hill’s® products, which can be used with confidence.
- More veterinarians feed Science Diet brand products to their own pets than any other brand-- products you can trust!
- 100% Satisfaction Guarantee for all Hill’s® Science Diet® products: Product can be returned to the practice, (place of purchase) for a refund or replacement. (Hill’s will reimburse the practice).

Keep in mind also, that there are a number of benefits to your practice regarding the sales of Science Diet brand products. Examples include: More frequent client visits (bonding), the comfort of knowing you are providing an important part of wellness, ability to interact with the cat owner and answer questions, further educating the client on issues not adequately covered during exams, reinforce previous recommendations, the opportunity to promote other wellness products and services, the profitability of the Science Diet brand pet food to the practice…
Summary

Nutritional needs change during the adult years, as compared to puppyhood and kittenhood. Wellness foods that emphasize lifestage nutrition and appropriately help manage nutritional risk factors, can significantly contribute to a healthy adult dog and cat. Hill’s® Science Diet® foods for adult canines and felines are such products, and as such, can be used with confidence. Even if pet owners did not have their puppy or kitten on a Science Diet pet food, it is NEVER too late to help them place their pet on a proper plane of nutrition. Your ability to effectively communicate on behalf of the pet’s best interest will be of benefit to all involved!

Are you ready?

To continue, you will need to complete the quiz for this module. When you are ready, click on the forward arrow below to take you to the quiz.
It is important to meet, but not greatly exceed sodium and chloride requirements.

- True
- False

PROPERTIES
On passing, 'Finish' button: Close Window
On failing, 'Finish' button: Close Window
Allow user to leave quiz: After user has completed quiz
User may view slides after quiz: At any time
User may attempt quiz: Unlimited times