



Nutrition for the Growing Puppy

Growing dogs exhibit omnivorous feeding behavior and therefore their diet should be comprised of proteins, carbohydrates, fats, vitamins, minerals and water in the correct proportions. A puppy food that meets these requirements is called a “Complete” or “Balanced” diet. The amount of food a puppy requires changes during growth and depends on the puppy’s age, breed, gender, activity, temperament, environment and metabolism.

Energy

Puppies should be fed to grow at an average rather than at maximum rate for their breed. Feeding for average growth decreases the risk of skeletal deformities. Growing dogs reach a similar adult weight whether growth rate is rapid or slow.

Proteins

Comprised of 23 different amino acids, proteins are often called the “building blocks” of the tissues. The dog’s body can manufacture 13 of these amino acids. The other 10 amino acids, however, must come from outside meat and plant sources and are called the “essential amino acids”.

The biological value of a protein is a measure of that protein’s ability to supply amino acids, particularly the 10 essential amino acids, and to supply these amino acids in the proper proportions. In general, animal proteins (meat, by-product meal) have higher biological value than vegetable proteins (soybean meal, corn gluten meal).

Fats

Fats are used to supply energy, essential fatty acids, and transport the fat-soluble Vitamins A, D, E and K. In addition, fats make a diet more palatable to a puppy. Fats help to maintain a healthy skin and haircoat. However, if a puppy’s fat intake is very high, it may result in the puppy eating excessive amount of energy that may predispose to growth spurts, rapid growth, developmental orthopedic diseases, weight gain and obesity.

If the fat becomes rancid, it destroys Vitamins E and A, and linoleic acid, leading to deficiencies of these essential nutrients. Commercial dog foods contain special natural or synthetic additives called “antioxidants” to prevent rancidity and prolong shelf-life.

Carbohydrates

Carbohydrates provide energy and are made up primarily of sugars, starches and cellulose (fiber). Carbohydrates are supplied in the diet from plant sources such as grains and vegetables. The sugars are 100 percent digestible. Starches, which are the largest part of most plant carbohydrates, need to be cooked before they can be digested and utilized by the puppy. Cellulose is not digestible, but it is used for its fiber content in the diet which helps to maintain gastrointestinal health.



Carbohydrates are a direct source of energy and are also protein-sparing nutrients. Without carbohydrates and fats, the puppy's body must convert protein to glucose to obtain energy; consequently, these proteins are no longer available for the building and growth of body tissues.

Vitamins

Vitamins are necessary for many of the body's chemical reactions. Fat-soluble Vitamins A, D, E and K need fat in the diet to be absorbed by the body. The B-complex vitamins dissolve in water and are readily absorbed by the body. Vitamin C also dissolves in water, but it is not needed in the canine diet because dogs can make it themselves. "Complete" and "Balanced" commercial puppy foods don't need additional vitamin supplementation.

Minerals

Minerals are needed by the body for structural building and chemical reactions. Like vitamins, minerals are supplied in the correct proportions in "Complete" and "Balanced" commercial puppy foods. Damage can be done by oversupplementaion. This is particularly true for calcium and phosphorus, because the proportions of these two minerals must be supplied to the puppy in the proper ratios for healthy growth and bone development.

Water

Water is the most important nutrient for all animals. Healthy puppies regulate their water intake so long as clean and fresh water is always available to them.

Feeding a Balanced Diet

Puppies require a diet that regularly includes proteins, fats, carbohydrates, vitamins, minerals and water for proper nutrition and growth. Of equal importance is the balance of these nutrients in the diet. A commercial puppy food is the most convenient method of ensuring a dog receives these nutrients in correct proportions.

Choosing a Commercial Puppy Food

Pet food manufacturers have developed foods that may be safely fed as a puppy's sole diet without supplementation. Such foods can be identified by the words "complete and balanced nutrition" on the label. These claims are regulated by federal and state agencies.

The product may simply be formulated to meet the expected nutritional needs of the puppy or the product can be chemically analyzed to be sure all the expected nutrients are present. If these methods are used to justify that claim of "complete and balanced" nutrition, the puppy food label should include a statement that the nutritional adequacy is based on a comparison to known nutritional standards. Look for these words on such products: "Meets the nutritional requirements of puppies established by the American Association of Feed Control Officials (AAFCO)." Feeding a puppy a product that does not have a nutritional claim on the label cannot guarantee a complete and balanced diet for the animal.



Alternative and preferred method to verify the nutritional adequacy is through actual feeding trials for growth. While exact wording will vary, pet foods which have been tested in this way should state the following on the label: "Complete and balanced nutrition for growing dogs based on AAFCO feeding trials." It is best to look for these words when selecting a puppy food.

Complete and balanced puppy foods primarily come in two forms: dry and canned. All contain the essential nutrients the puppy needs – the primary difference is the amount of water in the product. Canned foods are sometimes more palatable, while dry foods are more economical.

After selecting a puppy food, the final and most effective evaluation is accomplished by feeding your puppy the food and judging the results. Frequently changing from one palatable food to another may contribute to a finicky eater, juvenile obesity and altered growth. If your puppy thrives and looks healthy when fed this food exclusively, then this is the best test that can be given in evaluating a puppy food.

Growing dogs should not receive vitamin-mineral supplements when fed complete, balanced commercial food. Adding vitamin or mineral supplements, particularly calcium, phosphorus, and vitamin D may lead to developmental orthopedic diseases and excesses. Only use supplements when they are recommended by your veterinarian. **Feeding a complete balanced diet with fresh water is all most puppies need to stay nutritionally healthy.**

Small-, Medium-, and Large-Breed Commercial Puppy Foods

Many commercial puppy foods are designated for puppies of small-, medium-, and large-breeds. This designation can be found on the label. Puppies of small- to medium-sized breeds (< 25 kg of adult body weight) may continue to receive the same food as the bitch received during lactation. Large- and giant-breed puppies (>25 kg adult body weight) should be fed a food that contains less energy and calcium to decrease the risk of developmental orthopedic diseases. If possible, such foods should be fed during early weaning.

Treats

Treats, snacks and human food should be minimized. In general, dietary balance is maintained when less than 10% of the daily intake consists from treats (snacks, human foods) and the remainder is a complete and balanced food. The calcium and energy content of treats should be similar to that recommended for the food. If not, the number of treats should be limited. Treats increase energy intake and given in large numbers may almost double a puppy's calcium intake!!

Feeding Management and Monitoring

A new food should be selected for the stage-of-life (puppy) and/or based on the anticipated adult body weight (small-, medium-, large-breed puppy). Some breeders suggest feeding an adult maintenance diet rather than a growth diet to large- and giant-breed puppies. However, adult maintenance diets are not formulated for growth and may result in malnutrition. It is therefore best to choose a diet designed for large- and giant-breed puppies. Food selected should also have passed AAFCO feeding trials for puppies.

The best way to determine how much to feed is to first estimate the puppy's energy needs for the given age and then calculate the amount of puppy food that must be fed to meet that need. Another way to determine the amount to feed is to use guidelines included on the commercial pet food label. These guidelines usually provide estimates of the quantity to feed for several different ranges in body size. Such instructions provide only a rough estimate that can be used as a starting point when first feeding a particular brand food. Growing dogs have a very steep growth curve, and their total daily energy needs do increase as they grow.

During the growth, it is recommended to feed puppies a **measured amount of the food** (using 8 oz. measuring cup) to allow better control of body weight and growth rate. This amount can be fed in 2 – 4 meals per day. After 6 months of age, two meals per day can be fed. Free-choice feeding should be avoided in growing puppies unless they are extremely thin.

When introducing a new food to your puppy, blend it gradually with the existing diet in increasing amounts over at least 4 days until the new food replaces the old. This process should prevent food rejection and gastrointestinal upset.

Free choice fresh and clean water must be available at all times to your puppy!!

Body weight, Body Condition Score (BCS) and food intake (including treats and snacks) should be determined and recorded on weekly basis. The amount of food that is fed should be adjusted every 2 weeks. Puppies whose nutrition is well-managed are alert, active, have an ideal BCS (5/9) with a stable growth rate and a healthy coat. Stools should be firm, well-formed and medium to dark brown.

As a rule of thumb, small- and medium-sized dogs (adult weight up to 25 kg) reach about 50% of their adult weight around 4 months of age and dogs with adult weights greater than 25 kg at about 5 months of age. Small and medium breeds should be transitioned to an adult diet by 12 months of age, while large and giant breeds between 14 – 18 months of age.

Food Storage

Unused portions of canned food should be refrigerated, to maintain quality and prevent spoilage until the next feeding. To prevent possible digestion problems related to temperature differences, refrigerated food should be brought to room temperature before it is offered to the pet.

Dry food should be stored in a cool, dry location, and used within 6 months of purchase. Lengthy storage decreases the activity and potency of many vitamins. Storing dry food in an airtight container will prevent further nutrient deterioration and help maintain palatability.

Homemade Diets

There is no objection to feeding a puppy a homemade diet. However, if a homemade diet is used, it should be prepared from recipes that are nutritionally complete and balanced by experienced nutritionist. Feeding single food items or diets consisting of an indiscriminate mixture of human foods often results in dietary-induced disease.

Precautions of Non-Commercial Foods

Raw meat: Raw meat is potential source of parasites and pathogenic bacteria for the puppies and the owner.

Eggs: Eggs are an excellent source of protein. However, raw eggs contain an enzyme called avidin, which decreases the absorption of [biotin \(a B vitamin\)](#). This can lead to skin and hair coat problems.

Raw eggs may also contain *Salmonella*.

Milk: Some puppies cannot tolerate milk and in these cases, it should be avoided.

Liver: Liver contains high biological value protein, fats, carbohydrates, minerals and vitamins. However, raw liver is a potential source of parasites and pathogenic bacteria. Overfeeding liver may cause Vitamin A toxicity.

Bones/Cowhide "bones": Bones help to keep tartar from building up on dogs' teeth; however, the dangers of bone chewing are digestive upsets, intestinal blockages and perforations.

Chocolate, coffee, tea: Contain caffeine, theobromine, or theophylline, which can be toxic and affect the heart and nervous systems. Chocolate and candy should never be fed to puppies.

Onions, garlic, raisins and grapes are potential toxins in the puppy if eaten in large quantity.

Baby food: Can contain onion powder, which can be toxic to dogs. Can also result in nutritional deficiencies, if fed in large amounts.

Table scraps: Table scraps are not nutritionally balanced. They should never be more than 10% of the diet.