



## About the Authors



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# DECIPHERING FACT **FROM** FICTION

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## Growing dogs need to eat a puppy diet until at least one year of age

A popular myth about growing dogs is now refuted by hard facts: slow growth, not protein restriction, is the key dietary factor to reduce the risk for puppies to develop hip dysplasia and other orthopedic problems. Therefore, there is no benefit to lowering dietary protein for the growing puppy. In addition, it is critical that puppies eat a diet that meets growth requirements until their bones and joints are mature to avoid nutritional deficiencies.

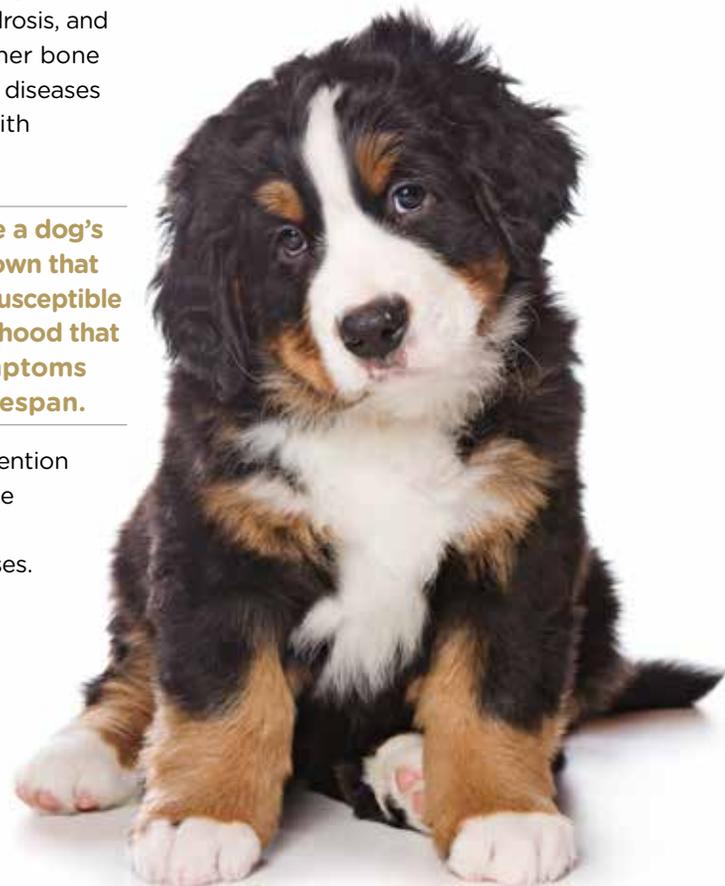
If you've ever had a large breed dog (greater than 50 pounds at maturity), you probably know that they are predisposed to orthopedic problems. This is often due to developmental orthopedic diseases (DOD) which are common in large- and giant-breed dogs and include hip dysplasia, osteochondrosis, and potentially a variety of other bone and joint disorders. These diseases typically occur in dogs with genetic risk factors.

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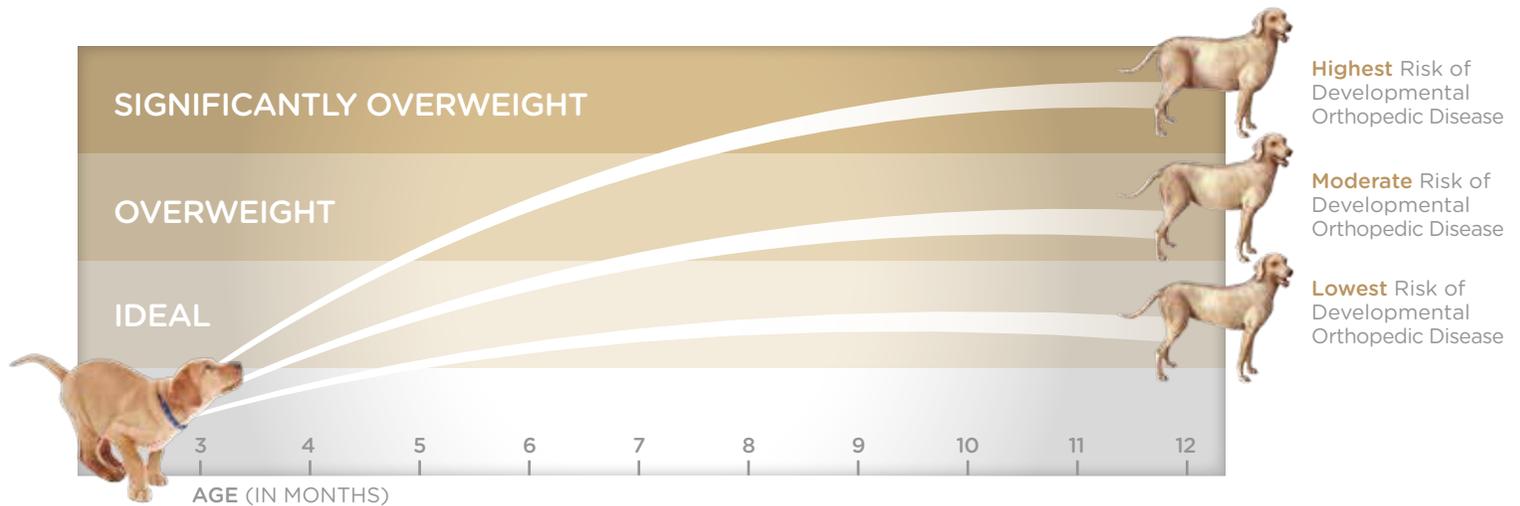
**While we can't change a dog's genetics, it is now known that what and how we feed susceptible dogs can alter the likelihood that they'll develop symptoms throughout their lifespan.**

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In other words, careful attention to nutrition can reduce the severity or postpone the expression of these diseases.



## INCREASED WEIGHT CAN LEAD TO HIGHER RISK OF ORTHOPEDIC DISEASE



**FACT** There are 3 key nutritional factors that have been proven to increase the risk of DOD:

### 1: Excessive calories and rapid growth

Puppies will put excess calories into faster growth before they add fat, so even a slightly overweight puppy is growing at an unsafe rate. Multiple studies have shown that restriction of calories in growing large- and giant-breed puppies reduces the risk for hip dysplasia, osteochondrosis, and osteoarthritis as adults. The puppy's ultimate adult size will not be affected as long as an appropriate, nutritionally balanced puppy food is fed.

### 2: Excessive calcium

Puppies in the first 6 months of life are not able to regulate their intestinal calcium absorption. Therefore, excess dietary calcium is very readily absorbed and can result in abnormal growth of the bones and joints. The amount of calcium in most large-breed puppy foods is adjusted to be more moderate than in most regular puppy foods — in good quality foods from reputable manufacturers, the amount of calcium is enough to prevent deficiency but not so much to contribute to abnormal growth in a large-breed puppy.

### 3: Unbalanced diets

Some examples include: diets designed for “intermittent and supplemental feeding only,” most home-cooked diets, diets from manufacturers with questionable quality control, and the inclusion of large amounts of human foods or dietary supplements.

All over-the-counter foods should be complete and balanced. If there is a statement on an over-the-counter product that reads “for intermittent or supplemental use only,” it is not complete and balanced and should be avoided (note that some veterinary therapeutic diets are labeled with this statement because they are specifically designed to be used in animals with medical conditions and under the supervision of a veterinarian).

Unless home-cooked diets are formulated by a board-certified veterinary nutritionist or PhD animal nutritionist, studies have shown that nearly all home-cooked diet recipes from online sources, magazines, or books are deficient in essential nutrients, and often the deficient nutrients (e.g. calcium) are the ones most essential for growth.

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**Growing animals are acutely susceptible to nutritional imbalances, and the results of seemingly small errors in formulation can be serious and lifelong. It is, therefore, extremely important that growing puppies not be fed home-prepared diets.**

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Pet owners should wait until their puppy has reached at least a year of age (small breed to large breeds) or 18 months (giant breeds) before starting a home-cooked diet, if this is their preference. Pet owners who wish to feed a home-cooked diet should consult a PhD animal nutritionist or a board-certified veterinary nutritionist (Diplomates of the American College of Veterinary Nutrition or European College of Veterinary Comparative Nutrition) to ensure that an appropriate, nutritionally balanced, home-cooked diet is fed, rather than just selecting a recipe from a book or website.

Likewise, raw diets, whether home prepared or commercial, should not be fed to growing puppies. Not only are many of these diets (even commercial products) deficient or excessive in essential nutrients, but the risk of serious food-borne illness secondary to contamination is greater in young animals with developing immune systems.

**Treats and table food should make up no more than 10% of the dog's total calorie intake or you run the risk of unbalancing an otherwise balanced diet.**

This is important to be aware of in puppies which may be getting a large number of treats during training. Finally, **dietary supplements should be avoided in puppies unless your veterinarian prescribes them for a specific medical issue** — as you could be unknowingly adding unwanted nutrients, such as calcium and vitamin D.

**FICTION** You may have read these myths about large-breed puppies, but they are all untrue:

**MYTH 1:** Dietary protein increases the risk for DOD.

**FACT:** Dietary protein has no negative effects on DOD in dogs.

**MYTH 2:** Vitamin C supplementation decreases the risk for DOD.

**FACT:** Vitamin C supplementation does not have any benefit for puppies.

**MYTH 3:** Calcium supplementation decreases the risk for DOD.

**FACT:** Calcium supplementation can increase the risk for DOD.

**MYTH 4:** Switching to an adult food during growth decreases the risk for DOD.

**FACT:** Switching to an adult food during growth can actually put your puppy at risk for nutritional deficiencies.

## FEEDING YOUR PUPPY RIGHT

*In order to achieve slow, steady growth, it is important that large- and giant-breed puppies are fed a good quality commercial large breed puppy food. In general, these diets are lower in calcium and energy density than “regular” puppy diets.* These diets may also be supplemented with compounds such as glucosamine, chondroitin, and omega-3 fatty acids for potential orthopedic benefits (although these compounds can't hurt, evidence for preventing DOD or arthritis is not strong). As there are no specific Association of American Feed Control Officials (AAFCO) guidelines for large-breed puppy formulations (versus all puppies), it is important to choose a diet produced by a large, well-known, reputable manufacturer. Beware of puppy foods that say you don't have to restrict calories in a large- or giant-breed puppy (you do!) or that perpetuate nutrition myths (for example, the myth that grains are a common cause of allergies).

Feeding directions are required on puppy food labels, but the quality of this information varies greatly. Therefore, you should start at the amount on the lower end of the range listed on the label and keep in mind that these recommendations are only a starting point.

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**Every dog is an individual, and the amount on the label may be just right, too low, or too high — the right amount for your growing puppy is the amount that it takes to maintain a body condition of 4 on a 9-point scale or a 2.5 on a 5-point scale.\***

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In addition, puppies will go through growth spurts and plateaus in growth so the amount of food will need to be adjusted frequently to maintain this optimal body condition.

Puppies should be fed 2–3 times per day and the amount of food should be measured at each meal so that the quantity can be adjusted to maintain ideal body condition. Although some puppies can eat free choice and maintain ideal body condition, this is the exception rather than the rule. Large-breed puppy foods vary in calorie density (less than 350 to more than 450 kilocalories [kcal]/cup) – if your puppy's breed is predisposed to obesity, you should feed a food that has lower calorie density (less than 400 kcal/cup).

On the opposite end of the spectrum are puppies who are not food motivated and are not able to maintain ideal body condition while eating a typical large-breed puppy food. In these puppies, owners should first check for overall health as a variety of health conditions can contribute to a thin, unthrifty puppy. If your puppy's health checks out, look at the calories in the food you've been feeding. If the food contains less than 400 kcal/cup, try switching to a large-breed puppy food with higher calorie density. If your puppy still has trouble maintaining weight, she may need to eat a regular (not large breed) puppy food with higher calories but appropriate calcium to maintain ideal body condition. However, regular puppy foods also can vary widely in calories, so be sure to select one with a higher caloric density.

**What about small- and medium-sized dogs?** If your puppy is expected to mature below 50 pounds, don't feel left out. Most of the same principles hold to keep your special puppy in top shape to reduce the risk of excessively fast growth, nutritional deficiencies and excesses, and early obesity. Smaller puppies are much more tolerant of dietary calcium levels than large breeds, so you only need to worry about providing a puppy diet with appropriate calories to keep your puppy lean.

\*See <http://wsava.org/nutrition-toolkit> for a body condition score chart and video to test your dog's body condition score.

**When growing is done.** Once your dog had reached maturity of his skeleton and joints (approximately 12-18 months of age, depending on breed), no matter what his ultimate size, you don't want to let things go in terms of body weight and body condition. Keeping a dog trim throughout his or her lifespan has been proven to have many health benefits, such as longer lifespan, reduced pain from arthritis, and reduced risk for a variety of serious health problems.

## TAKE-HOME POINTS

- 1 The three dietary factors that can increase the risk of developmental orthopedic diseases in growing dogs:
  - **Excessive calories and rapid growth.**
  - **Excessive calcium intake.**
  - **Unbalanced diets.**
- 2 All puppies should be fed a good quality commercial food that meets the requirements for growth until they are at least 12-18 months of age (12 months for most dogs; 18 months for giant breeds).
  - Don't switch to adult food before the puppy is full grown!

- 3 If the dog will mature >50 pounds, he or she should be fed a large-breed puppy food made by a large, well-known, reputable company.
- 4 Evaluate every 2 weeks and adjust the food frequently to keep the puppy trim throughout the growth phase (body condition score of 4 on a 9-point body condition score or a score of 2.5 on a 5-point scale).
- 5 Reduce calories by about 15-20% at the time of neutering to prevent fast growth and obesity (but keep the puppy on food that meets growth requirements until at least 12-18 months of age, depending upon breed).
- 6 Keep treats and table food at less than 10% of the puppy's total calories to avoid unbalancing the diet and to reduce the risk of fast growth and obesity.
- 7 Avoid dietary supplements unless it is specifically indicated for a medical issue by your veterinarian.



## ADDITIONAL READING

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