



Understanding Calcium

When we think of calcium in a pet's diet, we usually think of it in relation to strong bones and teeth. This relationship holds true. However, a deeper understanding of the role of calcium helps us avoid potential risks in our pets' diets.

A pet may be entering the danger zone when too much or too little calcium is included in its diet. The consequences are seen in bone abnormalities. Too little calcium along with low levels of vitamin D may result in rickets, soft bones that bend out of shape under the weight of a pet.

Supplementing diets of large breed puppies with excessive amounts of calcium can cause the development of bones that are large but low in bone density and strength. Fortunately, bone abnormalities are highly unlikely when a pet is fed a nutritionally complete and balanced pet food and there is no excessive calcium supplementation.

As important as dietary calcium is, it does not work alone. Many mineral nutrients are interdependent and cannot function as a single element. Calcium is interrelated with phosphorus. A proper ratio of the two minerals is needed to ensure their utilization by a pet. Animal nutrition studies show that calcium and phosphorus should be included in a pet's diet at a ratio of 1.0 to 2.0 parts calcium to each 1.0 part phosphorus. Widening ratios beyond this point may be detrimental to bone calcification. If the amount of phosphorus far exceeds the amount of dietary calcium, bone abnormalities may occur.

An example of calcium/phosphorus imbalance is found in an all-meat diet. Meats are deficient in calcium and the ratio of calcium to phosphorus is very poorly balanced. Some lean meats have only one part calcium to 18 parts phosphorus.

The absorption of calcium and phosphorus into the bones and teeth also requires a sufficient amount of vitamin D in a pet's diet. Excessive amounts of vitamin D may be toxic to a pet. Again, high quality pet foods to the rescue. They offer proper levels of vitamin D in relation to the levels and ratio of calcium and phosphorus in a diet.

Although it is true that a female's need for calcium increases during pregnancy and lactation, supplementing with calcium is not necessary. A female's calcium requirements are met during this time by consuming increased amounts of a complete and balanced pet food.

Nor will supplementing with calcium prevent eclampsia (sometimes called "milk fever"), which may occur after the young are born and nursing. Eclampsia is not a nutritional disease, but a metabolic condition. When a female is nursing, there is an increased demand for calcium. The bones provide an abundant resource, but the withdrawal of calcium from the bones depends on several hormones. Eclampsia occurs when these hormones are not helping to release enough calcium for the extra demands of milk production.

During eclampsia, the amount of available calcium is reduced, causing muscle weakness and trembling, which are signs of the condition.

The treatment for eclampsia includes delivering calcium directly into the bloodstream. The rapid and favorable response to this treatment has resulted in the misconception that giving a pregnant female high levels of calcium will prevent this condition.

Calcium may be good for your dog or cat's bones and teeth, but it plays a much more important role in your pet's diet than you think.