

Calcium and Phosphorus Imbalance in Iguanas

Information for the Pet Reptile Owner

In iguanas, there is a disease that develops and is directly related to the calcium:phosphorus ratio that exists in your pet's body.

Routinely it is seen in the iguanas that have a history of improper diet.

Both calcium and phosphorus are needed for such vital bodily functions as nerve transmission, bone health, muscle development and kidney function. Low calcium and high phosphorus causes dysfunction in all these organs.

Diet plays the major role in development of this disease which is more accurately termed 'nutritional secondary hyperparathyroidism.' Low body uptake of calcium from calcium poor foods causes a hormone called 'parathyroid hormone' to elevate which results in calcium being leeched from the bones that leads to soft bones. Foods that are high in phosphorus (such as all meat diets - not canned dog or cat foods) inhibit the absorption of calcium in the intestines leading to low body calcium.

Longer lengths of iguanas over two feet seem to develop a nervous twitching and lethargy while shorter iguanas are presented with rubbery jaws and fractures of the legs.

SYMPTOMS

The signs that are seen by the owner relate to the body functions that are affected by the mineral imbalance. Iguanas can show signs of muscle twitching, lethargy, anorexia, soft bones (rubber jaw), kidney problems, bones that are easily broken, dull color, muscle wasting, weight loss or behavioral changes. Because the signs are so varied, it is necessary for the veterinarian to look for possibly other diseases or concurrent diseases before a treatment plan can be started.

DIAGNOSIS

A physical examination can reveal some, but not all, signs of the disease. The veterinarian also can see if any other signs of illness are present since this disease can lower your pet's immunity to other problems.

Most times some testing is required. Testing is definitely required for the very sick iguanas or the iguanas where injectable medications are to be used. Testing in the beginning also allows a baseline database to be known to see if medications are working. Kidney disease can cause the exact same signs so we must test to make sure the kidneys are normal.

The tests that are run are:

- 1) a **Complete Blood Count** (CBC). This test measures the red blood cells and white blood cells to check for signs of systemic illness.
- 2) a **biochemical profile**. Kidney function along with the calcium and phosphorus levels are determined. In the beginning, liver function and blood sugar are measured also. When recheck blood testing is performed, usually only the calcium and phosphorus are tested.



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3) **X-rays** may be done if severe bone disease (such as fractures) or gout is thought to be present.

4) a specialized test that may be needed in refractory cases of nutritional secondary hyperparathyroidism is a determination of the vitamin D3 level.

5) a **fecal examination** to detect any parasites that may cause weight loss or a lack of absorption of nutrients from the intestines.

ENVIRONMENTAL CONCERNS

Iguanas need a source of ultraviolet light to activate Vitamin D in their skin. Vitamin D is used to maintain strong bones. Natural sunlight and/or fluorescent ultraviolet light (such as Vita-lite) should be available twelve to thirteen hours a day.

DIET

Protein sources include commercial foods such as high quality dog or cat chows or Purina Trout Chow. If feeding these commercial foods, the recommendation is for this to make up eighty percent of the diet. The other twenty percent should be of plant materials such as dark green or yellow vegetables or citrus fruits (berries, apples, pears, peaches, plums, etc.). Once your iguana has reached about two feet in length, the percentages of these portions should be changed to 50:50. Depending on the response of your iguana, we may need to decrease the protein part even further. Animal sources of protein are available such as earthworms, crickets, mealworms, cooked egg (eggshell included), cottage cheese, yogurt or hard cheeses can be used also. If using these as the sole source of protein, feed at twenty to thirty percent of the diet with a variety of plant material making up the rest.

One of the better iguana foods we have come across is from a company in Pennsylvania. The address is:

Ziegler Brothers, Inc, P.O. Box 95, Gardners, PA 17324-0095. telephone: (717) 677-6181.

Ask for Iguana Diet (53640600). It comes in 10 and 20 lb. containers

Avoid lettuce (too little calcium) and spinach (can cause kidney stones).

Complete vitamin and mineral supplements are a must. Use reptile vitamins that contain Vitamin D3 (give no more than 50 IU vitamin D3 per kilogram of body weight).



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