

Vitamin and Mineral Deficiencies in Reptiles

by Bill Howe

Chihuahuan Desert Wildlife Rescue receives numerous calls each year concerning sick reptiles, both native and exotic. The majority of these illnesses can be traced to poor diet and husbandry. The two most commonly encountered deficiencies, accounting for nearly 90 percent of the problems, are Metabolic Bone Disease (MBA) and Hypovitaminosis A.

Metabolic Bone Disease

MBD is one of the most common diseases seen in captive reptiles, especially in sun-loving lizards such as the green iguana. It occurs when there is insufficient calcium in the diet. To absorb calcium properly reptiles need Vitamin D3. Most animals can produce this vitamin but need to be exposed to ultraviolet-B (UVB) light from, preferably, direct sunlight. When animals lack this important vitamin they are unable to absorb calcium from their diet and their bodies begin to remove calcium from their own skeletal system for survival.

Symptoms of MBD include a lack of appetite, lethargy, muscle twitching, swelling and skeletal deformities. It can quickly lead to paralysis and death.



An iguana received by CDWR showing extreme MBD. The entire skeletal system was deformed and the animal was paralyzed.

A poor diet, lacking enough calcium or containing calcium and phosphorus in the wrong proportion can also lead to MBD. If caught early, the disease

can be treated and cured. With proper care, even severely affected animals can improve. Your veterinarian may inject the reptile with calcium or Vitamin D3, and prescribe calcium-retaining drugs to prevent further calcium loss.

The best way to prevent metabolic bone disease is to provide good nutrition and proper care, including making sure that your reptile is getting enough of the vital calcium and ultraviolet-B light. There are numerous vitamin and mineral supplements on the market for reptiles as well as special lamps that provide UVB radiation. Remember, however, that this radiation must not be filtered. Glass can prevent the beneficial effects of either natural sunlight or UVB lamps from reaching your animal.

Hypovitaminosis A

Vitamin A is one of the fat-soluble vitamins that is important for the growth and repair of tissues. It is also important in the proper functioning of the eyes, skin, mucous membranes, and ducts (small tubes which carry fluid from one tissue to another).

It is most commonly seen in turtles and tortoises but any reptile can show the effects of Vitamin A deficiency. This disease results in a thickening of the lining of ducts, often blocking the flow of fluids through the ducts. This is most common in the tear ducts and ducts in the pancreas and kidneys. It is frequently seen in captive turtles and tortoises in the spring when they emerge from hibernation.

Symptoms of *Hypovitaminosis A*:

- Swollen eyelids – often so severe the animal cannot open its eyes.
- Loss of appetite and weight
- Raw skin with secondary bacterial infections
- Runny nose
- Lack of appetite

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Reptiles fed iceberg lettuce, an all-meat diet, or poor quality commercial diet are prone to develop a Vitamin A deficiency as these foods have very low levels of this vitamin.

Other vital organ, such as the kidneys and pancreas, may also be affected.

Your veterinarian may suggest Vitamin A supplements given orally. If the condition is severe, Vitamin A will be given by injection. Closely follow your veterinarian's directions so as not to cause an overdose of the vitamin, which could be fatal.

Hypovitaminosis A is an easily preventable disease. Always feeding the appropriate diet will insure that your reptile is going to receive the daily requirements of the vitamin.