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Reptiles - Gout

What is Gout?

Gout is a disease in which the metabolism of uric acid is defective. Uric acid is a breakdown product of nitrogen, formed when protein is metabolized in the body. Uric acid is the form in which reptiles excrete their nitrogen wastes. Uric acid is eliminated from the circulating blood by the kidneys. Gout is a common problem in most reptiles, including terrestrial turtles. Although they are reptiles, aquatic turtles excrete the majority of their nitrogenous wastes as urea or ammonia, and produce only a small amount of uric acid, so are not usually affected by gout.

All reptiles require dietary protein. There are animal protein sources and plant or vegetable protein sources. Different species require different proteins. Carnivores (meat eaters) require animal based proteins and herbivores (plant eaters) require plant-based proteins. Proteins are made up of amino acid building blocks, and amino acids are actually what the body requires. Each different source of protein contains different levels of various amino acids, and each species of reptile is physiologically adapted to utilize the proteins and amino acids found in its natural diet.

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The reptile's ability to manage uric acid depends on the amount of protein fed, the type of protein fed, the frequency it is fed, and the hydration of the body. If it is not excreted, excess uric acid may accumulate in the joints, the kidneys or around other organs such as the liver, spleen, heart or lungs, and sometimes in mucous membranes such as the mouth. Gout is classified as either articular (joint) gout or visceral (internal organ) gout.

What causes gout in reptiles?

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This is not entirely clear, but diets too high in protein or containing inappropriate proteins are a predisposing factor. Problems with kidney function and dehydration of the body are also key factors. In the case of starvation, an animal will utilize its own bodily resources, including proteins, for energy, which can lead to gout.

What are the signs of gout and how is it diagnosed?

Your veterinarian will gather a thorough history, perform a physical examination, evaluate the diet and environment (including water availability, humidity and temperature) and may recommend blood tests and x-rays to diagnose gout. Articular gout is seen as enlarged, **painful** joints that the animal is reluctant to move. The mucous membranes may have visible signs of gout (tophi). On x-rays or physical palpation (feeling), the kidneys may be enlarged.

How is gout treated?

Dietary management or modification is a primary focus of treatment, as well as correcting any environmental deficiencies. The animal may be hospitalized for proper hydration (fluid therapy) and supportive care. Surgery is occasionally used to "clean out" the joints; in severe cases, the damage to the joints is enormous and irreversible.

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The medications used to treat gout in humans have not been properly evaluated for exact dosage in reptiles, and their safety and effectiveness are still being reviewed and researched. We do not know if these drugs work the same in reptiles as they do in humans.

What is the prognosis for a reptile with gout?

Treatment is often for life. Generally the prognosis for reptiles with a severe case of gout is very poor. The goal is to try and achieve a good quality of life through use of pain medication, proper hydration, plus dietary and environmental modifications. In severe cases, euthanasia is an option to consider.

This client information sheet is based on material written by: Rick Axelson, DVM