



exotis

Hypocalcemia in lizards

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Hypocalcemia in lizards

Hypocalcemia refers to low levels of calcium (calcium deficiency) in the bloodstream. It is also referred to as 'metabolic bone disease'.

Why is calcium so important?

Calcium is one of the most important elements found inside the body. It has many jobs, but the most important one for understanding the effect on calcium in the body, is that it makes muscles contract. Calcium moves in and out of muscle cell walls causing the muscle fiber to contract.

How does calcium move into the body of the lizard?

Calcium enters the body through food. In the wild the lizard would eat a huge variety of insects that have been foraging and feeding. In captivity, the insects are mass reared, tend to be very limited in species numbers and may not even represent the kind of insect found in the wild. Mass reared insects are low in calcium.

A common method of increasing the amount of calcium in the body is to dust the insects with calcium powder. Sometimes the dust can fall off before being consumed. This is why gut loading the insects with calcium high insect feeds can be beneficial. This will help provide your lizard with the required calcium amounts.

Why is UV light so important?

Calcium cannot enter the body without vitamin D3. Vitamin D3 acts as a key in the intestine to let calcium into the blood stream. UV light (wavelength 290-350 nm) is important.

UV light reacts with cholesterol in the skin and changes it through several chain reactions in the liver and finally in the kidney to make active vitamin D3 that the body is able to use. Reptiles cannot store Vitamin D3 and are unable to change vitamin D2 to D3 as mammals can. A good source of UV light at the correct height is vital (30-45 cm from the lizard's main basking spot).

How is calcium controlled inside the body?

There are 2 hormones that control the levels of calcium in the blood stream. Calcium is potentially a dangerous element. Too much calcium in the body can lead to arterial sclerosis (hardening of the arteries) and too low calcium can lead to seizures (fits) and brittle bones.

Calcitonin is the hormone that pushes calcium into the bones if there is too much calcium in the blood stream. Bones act as a store for excess calcium.

Parathyroid hormone comes into action when there is too little calcium in the body, depleting the bone store.

What are the signs of hypocalcemia?

In lizards this can cause muscular weakness. Most importantly it can cause weakening of the bones causing them to fracture. This is called metabolic bone disease. These breaks happen spontaneously. Even the strength of the muscle contracting is greater than the bone. Many bones can break at the same time. This is incredibly painful. Another aspect of low calcium is muscular twitching. This is seen in the legs and feet and is called 'piano playing'. This is because the toes move as if playing the piano.

There are several times in a lizard's life when calcium has an elevated role. Growth demands a lot of calcium to support lengthening bones as the lizard grows. As the lizard becomes an adult, the amount of calcium required is reduced as they are no longer growing.

Female lizards also need extra calcium when they reach reproductive age. The ovaries and eggs require huge amounts of calcium. The body sacrifices the calcium in the bones to help calcify the eggs and to support growth.

How can I prevent hypocalcemia?

To prevent this occurring, you will need to ensure your lizard's house is warm to help the digestion process of food. Ensure your lizard has a good quality UV bulb at the correct distance to maximise calcium absorption (30-45 cm away from your lizards favorite basking spot).

A good balanced diet with calcium and vitamin supplements is essential to make sure the muscles work correctly.

If your lizard has a low calcium condition he or she will need to go to the veterinarian for calcium treatment. This can sometimes mean your lizard will have to stay in hospital whilst his calcium levels are stabilized.

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