



Thiamine Deficiency (Vitamin B₁) Fact Sheet

What are the signs of Thiamine deficiency in cats?

Initially most cats will show anorexia and some degree of vomiting preceding neurological signs which include fairly rapid onset of impaired vision, dilated pupils, ataxia, vestibular signs, tremors and seizures.

How do you diagnose Thiamine deficiency?

It is based on a combination of factors: clinical presentation, MRI findings which are fairly typical (although not pathognomonic) and response to Thiamine supplementation. Absolute confirmation is technically difficult and not widely available: direct measurement of Thiamine in the blood may not reflect deficiency as this is not a good reflection of tissue concentration of Thiamine. Indirect methods are functional tests looking at the effects of Thiamine or lack of it: demonstration of reduced transketolase activity in red blood cells, which is not readily available for most veterinary practices, or other indirect methods, for example measuring abnormal metabolites such as organic acids in the urine.

What are the causes of Thiamine deficiency in dogs and cats?

There are three main causes: 1) inability to absorb Thiamine due to gastro-intestinal disease, 2) inability to process Thiamine due to liver disease and 3) decreased level of Thiamine in food. The latter can be caused by the heating process used for food preparation (Thiamine is destroyed by heat), addition of sulphur dioxide or sulphite preservatives to meat which inactivate Thiamine, and feeding food rich in Thiaminase activity such as some raw fish. Therefore an all-raw fish diet in cats can be a cause of Thiamine deficiency.

What to do if you suspect you have a cat with Thiamine deficiency and whose diet consists of a product being recalled

Unless the cat is showing neurological signs, the first step is to stop the diet and switch to another diet not listed in the recall. Thiamine supplementation (intramuscular injection) is advised in the first instance in a case with compatible neurological signs. Other causes for the neurological signs must be considered in the case of failing to respond to Thiamine injections within 24-48 hours.

If you are a pet owner concerned about your cat, please book an appointment with your vet.

If you are a vet and require any further information, please contact us at Davies Veterinary Specialists.

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