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June 09, 2003

The truth about Vitamin E

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Vitamin E (or d-alpha-tocopherol, as the chemical name is) is a fairly newly discovered vitamin that is subject to many myths and misunderstandings. As all other vitamins, it got known because of the effects an *insufficient supply* of it has on the body, in this case the bodies of mice - they got infertile when this vitamin was missing in their diet.

A little chemistry

The chemical d-alpha-tocopherol is quite special. It cannot be made synthetically without also producing its mirror molecule l-alpha-tocopherol. Most often, a synthesis will also produce a whole bunch of other tocopherols that are very similar in their chemical properties to Vitamin E, but they all lack the importance to the body... So, when you on a label in a vitamin store see d,l-alpha-tocopherol, it means that you are dealing with both the "d" and the "l" version - so only half of this mixture is actually Vitamin E! Even if the comma between "d" and "l" is missing, it is still the same.

You can find many variations of this vitamin. Many names with "d-alpha-tocopheryl + something-ate" are just as good. They are esters of "the real thing" and will split into "the real thing" in the moment they come in contact with the stomach acid. These esters are easier to store as they are less vulnerable to decomposition by oxidation when in contact with air. (Esters are chemical compounds generated as a combination of an alcohol and organic acid splitting off a water molecule in the process. Under the influence of strong acid, they react with water and re-generate the alcohol and the acid. Chemical names ending on "-ol" are generally alcohols, like the tocopherols, in this case "the real thing".)

Vitamin E occurs naturally in almost all kinds of natural fats, such as animal fat and plant oils. Small concentrations - but very abundant. We don't need much of it, so, as long as we get a reasonable amount of plant oils, we will get enough. "Enough" is some 20-30 mg (30-45 IU) per day. Same thing with our dogs - they can do with less because their generally have smaller bodies.

Should you supplement with it?

There is no problem in your helping your dog's immune system by adding some Vitamin E to its daily food. You can also add some of the other tocopherols (cheaper...), since they do have some effect too, although less than Vitamin E. As long as you get the 20-30 mg of Vitamin E per day, you can supplement with a mixture of tocopherols for the balance, if you don't like the higher cost of the natural Vitamin E.

However, synthetic vitamins are all made from *crude oil* as the raw material. They originate from the petrochemical industry's oil refineries, and, no matter how much chemists have rinsed them and cleaned them, they will still carry measurable concentrations of all kinds of petrochemicals in them. Many of these will be very dangerous, but they occur in concentrations that are small enough for our governments to accept the sale of the final product - assuming that the damages to people's health will be moderate.

Well, there have been many cases in history where governments have been very, very wrong on that, particularly when there are cumulative effects involved that cannot be discovered until the damage has been done. So, if you want to use significant extra doses of any vitamins, you should not buy anything synthetic.

Can you get too much of it?

However, it has been demonstrated that excess supplies of not only Vitamin E, but, to some degree, also of the other tocopherols, will enhance the immune system's ability to fight disease. This leads some people to want to take 10-100 times as much as we need.

You need very high doses before Vitamin E or any of the other tocopherols get toxic - significantly more than 2,000 mg (3,000 IU) for a normal person. It is not practically possible to reach those levels through a natural feeding. Very far from. Vitamin E is not known to exist anywhere in Nature in concentrations that can become dangerous (in contrast to Vitamin A, for instance...)

The benefits for the immune system are obtained with some 200-400 mg (300-600 IU) per day for a person. Just pro-rate it to your dog per weight, and you should be fine. For your dog, Vitamin E is much better for this than Vitamin C. (Vitamin C should NOT be given consistently to dogs - they generate it themselves - please see my [separate article](#) on that.)

Finally, be aware that the combination of being fat soluble and being a powerful antioxidant will destroy synthetic Vitamin E when you leave it exposed to air for longer time. And if you freeze it, chances are, you will be doing just that - because the capsules you get it in are not tight enough to keep air out when they get frozen. However, the naturally occurring Vitamin E in the raw fat in the food is not affected by this to any measurable extent. So, if you want to supplement Vitamin E because you freeze your dog food and you heard that this vitamin decomposes upon freezing, you are victim of a myth based on an incorrect conclusion that went a bit too far...

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