

Vitamin A Toxicity

Dear Dr. Cannell:

Why are you against vitamin A? People need to take all vitamins for good health.
Susan, Australia

Dear Susan:

The body needs all vitamins for good health but this hardly means one has to take all vitamins as supplements for good health. A balanced diet with varied food consumption, including vegetables, seeds and nuts, cold water fatty fish, dairy, red meat, and fruit, will supply almost all needed vitamins with the absolute exception of vitamin D, and possible exception of magnesium, zinc, potassium, and vitamin K2. Remember, nature never intended you to put vitamin D in your mouth; nature intended you to make it in your skin.

As far a vitamin A, the question is, do we get enough in our diet. The answer appears to be that we do, maybe way too much due to widespread food fortification and the use of vitamin A supplements, vitamin A in multivitamins, and cod liver oil. Beta-carotene is fine but if your multivitamin says retinyl acetate or retinyl palmitate, 5,000 IU, do not take it.

The problem of widespread vitamin A toxicity is so perverse; it includes the monkeys and apes we use in experiments, perhaps those we keep in our zoos. Drs. Joseph Dever and Sherry Tanumihardjo, of the University of Wisconsin, reported that liver biopsies of such primates show evidence of liver damage from the vitamin A. The reason is that way too much vitamin A is added to primate chow.

[Dever JT, Tanumihardjo SA. Hypervitaminosis A in experimental nonhuman primates: evidence, causes, and the road to recovery. Am J Primatol. 2009 Oct;71\(10\):813-6.](#)

This is an excellent paper for other reasons. Dr. Dever reminds us that blood retinol levels are useless to detect either vitamin A deficiency or vitamin A toxicity, and that the rate limiting step (how the body controls vitamin A levels) occurs with an enzyme in the intestine (carotenoid monooxygenase). The body simply makes the amount of retinol needed from orange-colored vegetables and fruit, but does not make retinol if you do not need it. That is why you can turn yourself yellow by drinking large amounts of carrot juice but you apparently cannot make yourself vitamin A toxic by doing so.

When you take retinyl acetate or retinyl palmitate, or cod liver oil, you bypass this intestinal regulatory system and dump preformed retinol into a closed system that has no good way of getting rid of it. This also explains why many studies from developed countries (where vitamin A toxicity is common) show one does not make much retinol from carotenoids, while studies from underdeveloped countries (where vitamin A deficiency is the rule) show that one does make it.

In 2008, Dr. Anthony Mawson, of the University of Mississippi, discussed evidence that taking vitamin A, especially during pregnancy, may account for some of the aggressive disorders (like ADHD, irritability, and conduct disorders). In fact, he discusses the numerous case reports associating vitamin A, including Accutane, with aggression. [Mawson AR. On the association between low resting heart rate and chronic aggression: retinoid toxicity hypothesis. Prog Neuropsychopharmacol Biol Psychiatry. 2009 Mar 17;33\(2\):205-13.](#)

I am no friend of the “lots of all vitamins” crowd. Take what you need and leave the rest, and the only way to know what you need is to do an accurate dietary evaluation of what you are eating.

John Cannell

[The Vitamin D Council](#)

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