



## Too much vitamin A can be risky

Too much of a good thing can be really bad. This is especially true for some vitamins.

**Question:** How much of a vitamin is too much?

**Answer:** The answer varies depending on the nutrient. For vitamin A, the margin between getting the right amount and getting too much is rather narrow. Too little vitamin A is a leading cause of blindness in many developing countries, but too much vitamin A during pregnancy can cause birth defects.

Recent research shows that even relatively slight excessive intake of vitamin A over time is associated with accelerated loss of bone minerals and increased risk of bone fracture as people age.

**Q:** Are all forms of vitamin A related to these problems?

**A:** Current knowledge indicates that the active form of vitamin A (called retinol, retinyl palmitate or vitamin A palmitate when added to foods and dietary supplements) is the main problem.

Beta carotene found in fruits and vegetables can be converted into retinol by the body, but it does not carry the same risks as dietary retinol. Beta carotene supplements, however, are associated with other problems, such as increased risk of lung cancer in smokers.

**Q:** How much retinol is too much?

**A:** Excess intake may only be two or three times the currently recommended level. Women in the Nurses' Health Study whose long-term diets averaged in excess of 1,500 micrograms of vitamin A per day had double the bone-fracture risk of women with an intake of less than 500 micrograms per day. The Recommended Dietary Allowance for adult women is 700 micrograms per day (900 for men).

Adequate vitamin A is important for many aspects of good health. In fact, people with vitamin A intake significantly below recommended levels apparently lose bone

strength at rates similar to those consuming too much.

**Q:** How can the food label be used to avoid excessive vitamin A?

**A:** It is best to avoid exceeding the Daily Value from food and supplements combined. A serving of food with 100 percent of the Daily Value for vitamin A contains 1,500 micrograms of retinol or an amount of beta-carotene equivalent to this quantity of retinol.

Diets that include at least five daily servings of fruits and vegetables provide plenty of vitamin A from beta carotene and related compounds, and there is little or no need for food or supplemental sources of retinol.

It is worthwhile to add up the major sources of vitamin A in your diet. Don't worry about fruits and vegetables, but include supplements, fortified foods such as breakfast cereals, sports bars, etc. The total amount should be less than 100 percent of the Daily Value.

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