



## In Geoff's Words...

### Optimizing Vitamin and Mineral Intake for Yourself

In the supply catalog, vitamin A has a poison warning label on it. When it arrives we have to handle it very carefully. However once we mix it with filler, like cornstarch, so it is not overpowering, it becomes an essential nutrient. Too much causes liver abnormalities and birth defects, not enough causes night blindness, reproduction problems, immune system dysfunction, and other problems. How do you know what is the "right" amount for you?

Today, the US government's Reference Daily Intake (RDI) is 5000 IU,<sup>1</sup> but is this the right amount for you? To get RDI's, the government relies on a consensus of scientific opinion to gauge the quantities necessary to assure the performance of recognized and essential physiological functions, but one problem with this approach is: we don't know everything about the human body. Scientific consensus is capricious; it changes as we learn more. For instance the 1968 RDA for vitamin C was 60 mg. In 1974 that changed to 45 mg., but in 1980 it went back to 60 mg.<sup>2</sup> What if tomorrow scientists find out that lots more would have been better? In fact there are well-documented benefits of nutrient quantities above the RDI for folic acid, vitamin B6, vitamin B12, selenium and chromium, according to Vitamin and Mineral Safety, 2<sup>nd</sup> Ed. (VM Safety<sup>3</sup>). We should ask ourselves: Is there a better yardstick to measure our optimal intake, than RDI's?

Scientists may argue incessantly over "optimal", but there is much more agreement about "too much". Many studies vary the dosages of nutrients, and often note when adverse effects appear. The safe upper limit is therefore somewhat apparent, and

government agencies are very interested in that in order to protect consumers. For instance the US Food and Nutrition Board (FNB) sets their upper limit of safety for vitamin A at 10,000 IU. The European Commission Scientific Committee on Food upper limit is also 10,000 IU. The United Kingdom Expert Group on Vitamins and Minerals Guidance Level is 5,000 IU. It should be noted that these are safe daily limits. Children in some parts of the world are given a 50,000 to 200,000 IU dose of vitamin A once every 3 to 12 months to treat and prevent deficiencies (VM Safety).

Looking at the available research as reviewed in VM Safety, the Council of Responsible Nutrition (CRN, [www.crnusa.org](http://www.crnusa.org)) has come up with its own Upper Level of Supplementation (ULS), and based on upper safety levels minus the amounts you already get in foods. For instance, the CRN ULS for vitamin C is 2000 mg, much more than the 60 mg RDI, because vitamin C has such a well-studied safety record.

*It is the CRN ULS that makes more sense for an optimal intake level than the RDI. We should strive for maximum amounts of vitamins and minerals, while still knowing such levels have been shown to be safe.*

Everyone should read VM Safety, because it is so informative and because a few items depend on individual circumstances. For instance high consumers of fortified foods and liver have a lower CRN ULS for vitamin A, and they recommend smokers not supplement with beta-carotene at all. But we were so impressed with the report we will be attempting to make a supplement that suits most adults and supplies most of the CRN ULS nutrients. Check with us next time you order!

### Product labels on website

We strive to make sure all the information on our label is available online, at [www.shrc.net](http://www.shrc.net). If you have a question, and it is after hours, try the internet. Also sign up for *The Signal*, an infrequent but informative health newsletter.

<sup>1</sup> <http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfcr/CFRSearch.cfm?CFRPart=101&showFR=1>

<sup>2</sup> [http://www.crnusa.org/about\\_recs3.html](http://www.crnusa.org/about_recs3.html)

<sup>3</sup> Hathcock, John N., Vitamin and Mineral Safety, 2<sup>nd</sup> Ed., 2004. <http://www.crnusa.org/safety/>