**Aunt Cathy's Guide to Nutrition:** **Sanford Medical Center**

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# Two Really Good Rules-of-Thumb about Absolutely Everything to Do with Nutrition

## After all these years, it all keeps coming back to these two ideas:

## 1. "<u>We need everything to do everything</u>."

**Missing any key component interferes with the whole process.** An example: just "taking calcium" is unlikely to be as effective as it might be in preventing or treating osteoporosis if there is an absence of adequate vitamin K and vitamin D.

**<u>Vitamin D</u> inadequacy is now known to be very common, frequently not recognized, and now well-established to be very injurious to health on many levels.** In addition to osteoporosis and calcium metabolism issues, inadequate vitamin D is associated with increased risk of cancer, autoimmune diseases like MS, diabetes and Parkinson's disease, impaired ability to make an appropriate immune response, muscle pain and weakness, congestive heart failure, pregnancy problems, impaired wound-healing and much more.

**Similarly, <u>vitamin K</u> inadequacy is also now known to very common and very injurious to health on many levels.** It is a big contributor to osteoporosis and poor mineralization of bone at any stage in life, as it is needed to **activate the hormone osteocalcin** to move calcium from the blood into the bone. Without <u>all</u> these factors in place, calcium consumed simply does not go where you want it to go.

Besides not helping your bones, a lot of other damage can result. Inadequacy also increases risk of cancer, calcification of kidneys and blood vessels and contributes significantly to cardiovascular disease, and much more. Interestingly, vitamin K is also the poster child of changes in virtually all our knowledge about it, including vitamin K sources, adequate intake, forms, toxicity (and the lack thereof) and multiple health applications and **all this information has all been accumulating only since 2006!**

## 2. "Assure nutrient adequacy instead of just assuming it."

I always assume that anyone could easily have some nutrition problem that has been shown to be quite common, generally not readily visible, and potentially very important to health (see #1 above.) I further assume that there is likely something to be done to safely, inexpensively and easily help to correct it.

This does not solve all their problems, but it does give them a more level playing field to achieve a health goal, and it also makes the ministrations of other health providers just a bit more likely to be effective. It is totally "win-win."

**This does not usually require getting labs, and most nutrient labs are:**

- **not regularly done and unfamiliar;**
- **not always easy to interpret;**
- **not necessarily reflective of nutrient status throughout the body;**
- **expensive or non-existent.**

And if we don't have, or can't get a lab to show deficiency, the assumption is often that the person must therefore be "just dandy." This is a dangerous assumption.

Identifying likely threats to nutritional adequacy does require knowing and asking the right questions even when no labs are available. Finding time to ask anything is difficult, but there are many ways to streamline the process and to do some significant good. As I hope this little paper illustrates, failing to assure adequacy will make us much more likely to fail to avoid or to solve many serious and expensive health problems.

One reason why we often assume a person has an adequate and appropriate intake of all nutrients is because historically when we first identified the existence of nutrients at all it was because deficiency made people "look funny**."** For example, vitamin C deficiency caused scurvy, a very visible and evil affliction. Learning about its cause had a huge impact during the Age of Discovery (in the 1500s.) The British "Limeys" took limes on board that provided the missing vitamin C, and as a result they could travel farther and stay at sea longer without getting sick, giving them an edge in claiming land.

Similarly, the discovery that niacin (vitamin B3) deficiency from a poor diet was the cause of pellagra came about because it also made people look funny … they had a very distinctive rash along with other more general complaints. Pellagra was known as "The Disease of the Four D's": Diarrhea, Dermatitis, Dementia and Death … and all of which might get the attention of health professionals. The dementia associated with pellagra from a simple dietary deficiency was the #1 cause of being put into a mental institution during the Great Depression in the 1930s. But the micronutrient deficiency cause, treatment and prevention of pellagra was not well understood until much later.

In some ways, the continued poor recognition of the influence of micronutrient status on health is similar to the difficulty people (including health professionals) initially had with "germ theory" … the idea that tiny little invisible creepy-crawlies could actually cause serious health problems. It took quite a while to convince health professionals of that time that washing their hands between patients was a very good idea … and many people suffered serious consequences because of the delay in acceptance of this reality.

**We still have trouble recognizing that tiny little invisible micronutrients have a similar importance … and we only recognize a problem when it is great enough to become visible. That, of course, is too late for the prevention of health problems associated with inadequacy, and they may not be correctible after the fact either.**

The point (and there is one) is that in the absence of the symptoms like those of scurvy or pellagra, we just sort of assume people are fine. They don't look funny (… at least not for that reason. ☺) It is useful to remember that extreme injury due to recognized inadequacy is a late appearing symptom of deficiency. People can often be well on the way to serious problems and still look fine. Prevention of inadequacy, by far, is the best way to go.

However, we commonly assume that people living in America, or people who are well-to-do, or those who are overweight, are very unlikely to be "malnourished." ("Wrong!") Additionally it is not uncommon to see descriptions in people's medical records with phrases like "well-nourished female" etc., based only on their size. In fact, there is a lot of evidence showing that people who are obese are actually MORE likely to have certain micronutrient deficiencies regardless of their caloric intake or utilization. Everyone deserves a closer look ay micronutrient status.

This paper is just a quick discussion pointing out just these two concepts that have applications in approaching ANY health assessment situation. **If you would like more information about the particulars of nutrition issues in specific conditions, please see my other papers.** They set out to describe and explain the issues most commonly associated with a large number of nutrients and the influence inadequacy of multiple nutrients in a wide range of medical conditions.

At the moment, these include papers about the micro- and macro-nutrient issues in specific conditions like diabetes, Wilson's disease, celiac disease, eye health, hemochromatosis, epidermolysis bullosa, Prader-Willi syndrome, multiple sclerosis, Smith–Lemli-Opitz syndrome, osteoporosis, cancer, parkinsonism, aging, pregnancy and lactation, and others including important (but regularly missed) drug/nutrient interactions. I update them regularly and I am happy to share them with anyone interested. Just ask.