

Focus on Vitamins

A Pharmacists View

Recently, there's been a big buzz on the value of vitamin and mineral supplementation. And every media outlet from the 6 o'clock news to the Dr. Oz show has been adding its two cents.

As a pharmacist, it occurred to me that none of the pros and cons being covered seemed "new" so I wondered what had initiated the buzz and learned the trigger was three new studies, as well as an editorial titled: *Enough is Enough: Stop Wasting Money on Vitamin and Mineral Supplements* all which were simultaneously published in the medical journal, *Annals of Internal Medicine*.



Messages from both the researchers and the writers of the editorial were clear: supplementing the diet of well-nourished adults with (most) vitamin or mineral supplements has no clear benefit and might even be harmful. Yet, it also seemed (to me) that many news stories focused more on the title of the editorial by trumpeting the message that supplements are a waste of money and nobody should be taking them.

So the question remains: What should a person do? And the answer is: It all depends. Again, there is evidence supporting their use. But there are also studies demonstrating harm.

Consider the commonly used multivitamin. As summarized by the researchers, not everyone needs a multivitamin; they are not a replacement for a well-rounded diet and the money used to purchase them might better be spent on fruits and vegetables, nuts, beans, as well as life-style enhancements like getting more exercise.

I agree with the researchers that for people who eat a well-balanced diet supplements are not required. But are they harmful? Likely not. The doses of vitamins and minerals are quite low in most multivitamins. So consumers should be sure to choose one that does not exceed the recommended daily dosages. More does not always mean better!

But, what should people do when their diets are inadequate?

Case in point, I know many mothers who express concern about their "picky eaters," even though many foods children are willing to eat - such as orange juice, milk, cereal and bread - are fortified with vitamins. In these cases, parents are advised to consider whether the child is growing properly, following a vegan diet, or has food intolerances or allergies. And in instances where there is parental concern, a medical doctor should be consulted.

If you have requests, suggestions or comments for future issues, your feedback may be directed to suzie@medicalartsparmacy.ca

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If a multivitamin is recommended, then a pharmacist can help identify a brand that does not exceed daily-recommended doses.

Another population that may benefit from multivitamin use is vegetarians who should have their vitamin B12 and iron monitored (by a doctor) since these nutrients are usually obtained by consuming meat.

It's also important that pregnant women take a prenatal vitamin. Pregnant women have additional requirements for folic acid, vitamin D, calcium and iron. Ideally, women should start taking prenatal vitamins 3 months before trying to conceive in order to build up their stores. And specifically to prevent neural tube defects, pregnant women should take folic acid. Some of these women may require a higher dose of folic acid, such as 5 mg/day, particularly if they are on anticonvulsant medication, methotrexate, phenytoin, or sulfa. Additionally, if they are smokers, obese, or have malabsorption issues, then they may require higher doses as well. Of course, all of these scenarios would require an appointment with a doctor as these women also require additional monitoring.

Another population that may benefit from a multivitamin is the elderly. If they are now cooking for one or suffering from a chronic medical condition that may interrupt the ability to shop for or prepare meals as they once did, some may end up subsisting on a diet of "tea and toast" and could benefit from the use of a multivitamin, vitamin D, calcium, and vitamin B12. Alternatively, people who find themselves in a caregiver's role (with an elder) could consider making meals and freezing them, so that nutritious meal options are readily available. *Meals on Wheels* is another option for helping the elderly.

In terms of specific vitamins, vitamin D is currently the most widely recommended. According to *Osteoporosis Canada*, all Canadian adults should be supplemented with vitamin D. This is because our bodies do not make enough vitamin D due to inadequate sun exposure in northern latitudes with long winters. However, since we also know the dangers of sun over-exposure, the answer is to take a vitamin D supplement. Healthy adults between 19-50 years of age require 400-1000 IU daily. Those over 50 or younger adults at high risk (for example those with osteoporosis and/or fractures) should receive 800-2000 IU daily. There are many trials that show the benefit of taking vitamin D (along with calcium) for osteoporosis. It has also been shown in some studies to have an association with reducing risk for cancer, multiple sclerosis, Parkinson's disease, depression, and diabetes. More studies are required to show causality with these medical conditions, but it is clear that vitamin D supplementation is beneficial to overall health.

Usually, calcium is recommended to be taken in combination with vitamin D. Adults should get 1000 mg of calcium and higher amounts for postmenopausal women. But once again, the biggest benefit is seen when this is accomplished through a healthy diet! There is a study that demonstrates a possible association with high dose calcium supplementation and heart attacks. ⁽⁴⁾ Whether or not this is true is to be debated, but my current recommendation is to take a low dose calcium supplement while making an effort to get enough calcium from one's diet. It should be noted, as well, that there was no association between calcium from diet and heart attacks. ⁽⁴⁾

Other vitamin supplements depend on medical conditions and deficiencies. Many people require vitamin B12, and iron supplements. Generally, supplementation should only begin after consulting a physician and doing blood work.

Everyone is encouraged to remember that supplements can negatively interfere with medication or medical conditions. Therefore, we cannot assume that because something is simply a "vitamin" or "natural" product that their use is safe.

Please come into Medical Arts and discuss these issues with the pharmacist before initiating any kind of supplement.

If you would like to discuss any of the vitamins you are currently taking it's easy to book a [MedsCheck](#) appointment with a pharmacist. We are here to help.

Food Sources of Calcium

Table adapted from *Food Sources of Calcium from the Dieticians of Canada*. For full table, please visit: <http://www.dietitians.ca/Nutrition-Resources-A-Z/Factsheets/Osteoporosis/Food-Sources-of-Calcium.aspx>

Source	Serving Size	Amount of Calcium (mg)
Spinach	125 mL (½ cup)	129-189 (less if cooked)
Turnip greens, frozen, cooked	125 mL (½ cup)	104-154 (less if cooked)
Orange Juice, fortified with calcium	125 mL (½ cup)	155
Milk (any percent), chocolate milk	250 mL (1 cup)	291-322
Buttermilk	250 mL (1 cup)	370
Soy or rice beverage, fortified with calcium	250 mL (1 cup)	319-324
Gruyere, Swiss, goat, low fat cheddar, low fat mozzarella	50 g (1 ½ oz)	396-506
Processed cheese slices (Swiss, cheddar low fat Swiss or cheddar)	50 g (1 ½ oz)	276-386
Yogurt (plain)	175 g (¾ cup)	292-332
Salmon (pink/humpback, red/sockeye), canned, with bones	75 g (2 ½ oz)	179-208
Beans (white/ navy), canned or cooked	175 mL (¾ cup)	93-141
Baked Beans, canned	175 mL (¾ cup)	89-105
Tofu, prepared with calcium sulfate	150 g (¾ cup)	234-347
Almonds, dry roasted, unbleached	60 mL (¼ cup)	93

1. Eliseo Guallar, Saverio Stranges, Cynthia Mulrow, Lawrence J. Appel, Edgar R. Miller, III; Enough Is Enough: Stop Wasting Money on Vitamin and Mineral Supplements. *Annals of Internal Medicine*. 2013 Dec;159(12):850-851.
2. Vitamin D: An Important Nutrient That Protects You Against Falls and Fractures. <http://www.osteoporosis.ca/osteoporosis-and-you/nutrition/vitamin-d/>
3. Vitamin D: Evidence Trial Summary Chart. 2010. <http://www.rxfiles.ca/rxfiles/uploads/documents/members/Vitamin-D-trial-summary-chart.pdf>
4. Li K¹, Kaaks R, Linseisen J, Rohrmann S. Associations of dietary calcium intake and calcium supplementation with myocardial infarction and stroke risk and overall cardiovascular mortality in the Heidelberg cohort of the European Prospective Investigation into Cancer and Nutrition study (EPIC-Heidelberg). *Heart*. 2012 Jun;98(12):920-5. doi: 10.1136/heartjnl-2011-301345.

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