



# SHOULD CHILDREN USE A MULTI-VITAMIN?

by dr. jonah luisis, nd, bt  
& dr. du la, nd, ra, doula



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Too many years ago, as a student working in a health store in Toronto, I was asked by the storeowner to offer customers samples of a children's multi-vitamin/mineral.

I did so, unaware at the time that the issue was so controversial! More than one parent indignantly declined, declaring that their pediatricians claimed children did not require nutritional supplementation.

## WERE THEIR PEDIATRICIANS RIGHT?

Let me preface this discussion by disclosing that I am not a "supplements naturopath" – my *modus operandi* is to focus on correcting a patient's lifestyle. However, I am not averse to supplementation, particularly if – upon consideration of available evidence – it is indicated.

The intent of multi-vitamin/mineral use is to compensate for nutritional shortcomings in a person's diet. The obvious first question is this: is the child consuming all the nutrients they require from the food they are eating?

A 2006 report prepared by the Region of Waterloo Public Health and the University of Waterloo determined that 68% of grade six students in the Waterloo Region of Ontario were not meeting the fruit and vegetable consumption recommendations laid out in *Canada's Food Guide*. The same study found that consumption of "meat

and alternatives" (e.g. tofu) was inadequate in 46% of students, an important factor in the associated findings of inadequate intake of iron and zinc in 11% and 31% of students respectively<sup>1</sup>.

Another study, published that same year in the *Journal of the International Society of Sports Nutrition*, determined that 0% of (adult) subjects were able to meet their micronutrient (i.e. vitamins and minerals) Recommended Daily Allowances (RDA's) through diet alone<sup>2</sup>. Food for thought!

*Canada's Food Guide*, which in my opinion does not offer the most up-to-date nutritional guidelines (better guidelines are available at: [www.hsph.harvard.edu/nutritionsource/kids-healthy-eating-plate](http://www.hsph.harvard.edu/nutritionsource/kids-healthy-eating-plate)), recommends children under 13 years of age eat:

- » 4 to 6 servings of vegetables and fruit daily (low, in my opinion)
- » 1 to 2 servings of meat and meat alternatives daily<sup>3</sup>.

The *Dietary Guidelines for Americans* recommend daily amounts via cups/ounces (as opposed to servings) that gradually increase between the ages of 2 to 13.

- » Vegetables: 1-1.5 cups up to 2-3.5 cups, respectively
- » Fruit: 1-1.5 cups to 1.5-2 cups, respectively
- » Protein: 2-4 ounces up to 5-6.5 ounces, respectively<sup>4</sup>

Does your child meet these guidelines? If not, consider supplementing their diet with a multi-vitamin/mineral.

## ANY MULTI-?

As with all things in life, quality in nutritional supplements is wide-ranging, and as a rule, you get what you pay for.

There are a wide range of factors that determine the quality of any nutritional supplement. For example:

- » Does the product contain the full spectrum of nutrients required for health, and in adequate quantities?
- » Does the product contain well-absorbed, well-tolerated, optimally bioactive forms of the nutrients it contains? It's a little known fact that minerals and vitamins are available in differing forms. For instance, magnesium carbonate may result in a net loss of magnesium from the body when compared to magnesium glycinate, which is more efficiently absorbed and better tolerated<sup>5</sup>.
- » Certain nutrients (e.g. vitamin A, iron), are potentially toxic when consumed in excess. Does the product contain excessive amounts of potentially toxic nutrients?

The *Comparative Guide to Nutritional Supplements* assesses and rates the quality of over 1,300 multi-vitamin/minerals on the above and 14 other criteria, offering an overall score out of five stars. The majority of inexpensive store brands earned very poor ratings (one star representing a fairly typical score)<sup>6</sup>.

Vitamins and minerals can come in multiple forms, and some are better than others, for a variety of reasons. A few things worth looking for are:

- » Calcium as not only calcium carbonate;
- » Folate as methyltetrahydro-folate and not folic acid<sup>6</sup>;
- » B<sub>12</sub> as methylcobalamin instead of the relatively inferior cyanocobalamin form<sup>7</sup>;
- » Vitamin E in the form of *d*-alpha tocopherol, which is absorbed at two times the rate of the synthetic, poorly bioactive *d/l*-alpha tocopherol form.

You also want to ensure that a variety of minerals are present in the multi, and not only calcium and iron. Zinc, magnesium and selenium are all important as well.

Also important to consider are the non-therapeutic ingredients. Disturbingly, the "#1 Brand Choice of Pediatricians" also:

- » Appears to contain quite a bit of sugar. The exact amount of sugar is not included on the label, but confectioner's sugar, corn syrup solids (which are 100% sugar) and dextrose monohydrate (sugar) are three of the first seven ingredients listed;
- » Contains sorbitol, which may cause digestive upset;
- » Contains several food colorings, including Red 40 and Yellow 6, both of which contain the carcinogen benzidine<sup>8</sup>.

If you review the full ingredient list, you will note that I did not include aspartame, the most plentiful ingredient listed, as a point of concern. Although controversial, the current scientific evidence suggests that aspartame is safe for human consumption<sup>9</sup>.

It is important to note that it may be difficult to find a multi-vitamin that meets all the criteria mentioned. All forms of these vitamins and minerals will be safe for your child; the difference is in the bioavailability and absorption rate. Prioritize finding a product that does not include the non-therapeutic ingredients such as food colourings and excess sugar first, and then move on to considerations of the most bioavailable forms of the vitamins and minerals contained.

## WHAT ABOUT THE RISKS?

Over the past decade or so, several studies have been published that have demonstrated a correlation between multi-vitamin/mineral use and rates of cancer development<sup>10</sup>.

Although receiving much publicity, the relationship here is fairly weak, statistically not such that a *causal* relationship would be the appropriate conclusion, based on current data.

## THE BOTTOM LINE

Take the time to learn and understand how to consistently eat a balanced, nutrient-rich diet. Include in this a refresher on what constitutes standard food-serving sizes.

Keeping a food journal is also a good idea, giving you access to the data you need to build a consistently healthy, balanced diet for you and your family (be sure to note: *do they actually eat it?*).

If you are concerned that your child is not eating in a way that ensures adequate nutrition, use a multi-vitamin/mineral – there is very little data to support the notion that using nutritional supplements to correct nutritional deficiencies (as opposed to using "mega-doses" of nutrients) is harmful. Even the authors of studies arriving at conclusions critical of multi-vitamin/mineral use concede that their use is indicated to correct nutritional deficiencies<sup>11</sup>.

To find a high-quality multi-vitamin/mineral for your child:

- » Shop for a "children's" multi-vitamin/mineral, which will include potentially toxic nutrients in amounts appropriate for children's smaller bodies;
- » Visit a health store for a higher-quality range of options than a national drug or grocery store chain is likely to carry;
- » Be willing to invest in a quality product – even a seemingly expensive product will typically amount to approximately \$1.00 daily. •

Head to [www.ecoparent.ca/extras/fall17](http://www.ecoparent.ca/extras/fall17) to find the cited resources for this article.



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