

Tips for choosing a great supplement

Excerpt from the upcoming book *Australian Vitamin Guide: How to obtain optimum nutrition with the help of the best nutritional supplements*, Robert Ryan (BSc (biology, human health) Dip IT, Dip PA). Copyright 2005. All Rights Reserved. V2.

Combination & synergy of multiple nutrients

One of the most important criteria is to find a complete and balanced formulation of multiple nutrients that work together in synergy. In other words, vitamins, minerals and other nutrients need to be in the right combinations for each of them to reach optimum effectiveness. In the words of Dr. Michael Colgan:

“Do not use *single* antioxidants. As with all other nutrients, antioxidants work properly only in synergy with each other. It is their multiple interactions that create optimal protection for your body. Even if one vitamin was missing, it adversely affects the function of all the others.”¹

He further advises:

"Supplementing with any *single* nutrient cannot possibly work in the mind-boggling complexity of that biochemical soup we call human beings. Nutrients work only by interaction with other nutrients....

... complete nutrition with all nutrients every day, which permits all essential nutrient interactions to take place, is the only road to optimum health."²

Dr Strand concurs: "... antioxidants *work together*. To halt oxidative stress, the body needs enough antioxidants to handle all the free radicals, and the antioxidants need all of the supporting nutrients to do their job well."³

Dr. Mindell adds: "As important as vitamins are, they can do nothing for you without minerals... the body... cannot manufacture a single mineral."⁴

In other words, taking single nutrient products like vitamin C, E, zinc or calcium etc. can be, at best, a waste of your money. At worst, it can lead to imbalances in other nutrients.

Here are some examples of how nutrients work together:

1 - Dr. Michael Colgan, *The New Nutrition: Medicine for the Millenium*, 1995, Apple Pub. Co. Ltd., page 132-133.

2 - Dr. Michael Colgan, *The New Nutrition: Medicine for the Millenium*, 1995, pages 62-64, Apple Pub. Co. Ltd.

3 - Dr. Ray Strand, *What your Doctor doesn't know about Nutritional Medicine may be killing you*, 2002, page 50, Thomas Nelson Publishers, Nashville.

4 - Earl Mindell, *Vitamin Bible for the 21st Century*, 1999, pages 12-13, Warner Books, New York.

- Iron needs calcium and copper in order to function properly.⁵
- Vitamin A and the B vitamins need zinc in order to be absorbed.⁶
- Boron assists the function of vitamin D.⁷
- Absorption of calcium is dependent on vitamin D.⁸
- Vitamin K is involved with calcium metabolism.⁹
- Vitamin C improves calcium absorption by up to 100%.¹⁰
- Copper is most important for the absorption of iron.¹¹
- Glutathione works best in combination with vitamin B12, B3 and selenium.¹²
- Vitamin C prevents other vitamins from being oxidised - vitamins A, E, B1, B2, B5 and folic acid.¹³
- Vitamin E prevents the oxidisation of vitamin C and the B vitamins in the gut.¹⁴
- Vitamin C converts folic acid to its active form of folinic acid.¹⁵
- Folic acid and vitamin B12 work in synergy.¹⁶

Here is a detailed example provided by Dr. Colgan:

"...scientific evidence shows unequivocally that, *by themselves*, calcium supplements just don't work. The reason they don't work is simple:- synergy... For optimal interaction, all the nutrients involved in a particular process have to be present in amounts that balance each other. If you put in a large excess of one nutrient such as calcium, over a period of months you may see a small increase in bone density. But it will not be a normal or healthy increase. You will also see an increase in calcium plaque in arteries, pathological calcification of soft tissues, and a large increase in urinary calcium.

The body is dealing with the calcium excess by dumping it anywhere it can, so as to bring blood calcium levels back into workable ratios with the levels of other minerals. Once you realise the complex synergy of nutrients to build bone, you will never again be tempted to take calcium supplements, nor supplements of any single nutrient.

Even the conservative U.S. National Academy of Sciences states that normal bone formation requires calcium, vitamin D, zinc, copper, manganese, fluoride (more correctly, fluorine), silica (more correctly, silicon), and boron.... Most of these are deficient in ... food and people. So if you are going to supplement with calcium it's only logical to supplement with other bone-forming nutrients also.

In addition, we have known for thirty years that the essential mineral magnesium acts to increase calcium absorption from the diet, and calcium retention in bone... without adequate magnesium you lose bone like crazy.

Recent studies also show that one in every four post-menopausal women can't absorb sufficient calcium to maintain bone, even at supplement levels of 1500mg per day. Dr. Guy Abrahams and colleagues show that if you add 600mg of magnesium per day, then only 500mg of calcium is required to cause a rapid increase in bone density, even in advanced osteoporosis.

Supplementing with all the above minerals, plus vitamin D, is still not enough for strong bones... We now suspect that calcium interacts with most of the other 58 essential nutrients that

5 - Dr. Soroush Habibi, *Nutritional Healing*, 2001, p145, Habibi Health Resources.

6 - Dr. Soroush Habibi, *Nutritional Healing*, 2001, p151, Habibi Health Resources.

7 - Dr. Soroush Habibi, *Nutritional Healing*, 2001, p142, Habibi Health Resources.

8 - Dr. Soroush Habibi, *Nutritional Healing*, 2001, p143, Habibi Health Resources.

9 - Dr. Soroush Habibi, *Nutritional Healing*, 2001, p123, Habibi Health Resources.

10 - Dr. Michael Colgan, *The New Nutrition: Medicine for the Millennium*, 1995, pages 62-64, Apple Pub. Co. Ltd.

11 - Dr. Soroush Habibi, *Nutritional Healing*, 2001, p144, Habibi Health Resources.

12 - Dr. Soroush Habibi, *Nutritional Healing*, 2001, p140, Habibi Health Resources.

13 - Dr. Soroush Habibi, *Nutritional Healing*, 2001, p124, Habibi Health Resources.

14 - Dr. Soroush Habibi, *Nutritional Healing*, 2001, p122, Habibi Health Resources.

15 - Dr. Soroush Habibi, *Nutritional Healing*, 2001, p124, Habibi Health Resources.

16 - Dr. Soroush Habibi, *Nutritional Healing*, 2001, p134, Habibi Health Resources.

compose the human body. New studies show that supplements of multiple vitamins and minerals, yield much greater increases in bone density than calcium, or calcium and vitamin D. And the greater the number of the essential nutrients you add to the mix, the better the result." ¹⁷

Synergistic power - the whole is greater than the sum of its parts

A synergistic formulation is one where the combined effect is greater than the additive effect of each nutrient alone. Dr Strand provides a good example of how nutrients work together in synergy:

"Grape-seed extract offers antioxidants that are fifty times more potent than vitamin E and twenty times more potent than vitamin C when used with all of the other antioxidants and supporting nutrients. Used alone, it is only six to seven times more potent than vitamin E and three to four times more potent than vitamin C. Here again the power of synergy among nutrients is clear". ¹⁸

Lyle MacWilliams provides a similar example:

"One double-blind study found that red blood cell glutathione levels increased nearly 50 percent when subjects were given 500 mg per day of vitamin C". ¹⁹

Dr Strand similarly states:

"...vitamin C has the ability to regenerate vitamin E and intracellular glutathione so they can be used again and again." ²⁰

Regards selenium, Dr Habibi states:

"When it is combined with vitamin E it makes vitamin E 50 times more potent as an antioxidant." ²¹

Balance is the key

Supplementing with just one nutrient can lead to an imbalance in others. Dr. McNamara explains with a specific example:

"Rather than piece-meal these nutrients, it makes better sense to use vitamins and minerals in a full range, in proper ratios to each other... For example, since calcium and magnesium are delicately balanced in the body, we should not take calcium supplements without taking the counter-balancing magnesium. Taking a fair amount of calcium without magnesium may lead to an increased excretion of calcium from the kidney, which in turn, causes an already low supply of magnesium to be excreted." ²²

Another example from Dr Habibi regards the mineral boron:

"Doses above 50 mg per day can interfere with riboflavin (vitamin B2) and phosphorous." ²³

17 - Dr. Michael Colgan, *The New Nutrition: Medicine for the Millenium*, 1995, pages 62-64, Apple Pub. Co. Ltd.

18 - Dr. Ray Strand, *What your Doctor doesn't know about Nutritional Medicine may be killing you*, 2002, page 197, Thomas Nelson Publishers, Nashville.

19 - Lyle MacWilliam, *Comparative Guide to Nutritional Supplements*, 2003, 3rd Edition, page 45, Northern Dimensions Publishing.

20 - Dr. Ray Strand, *What your Doctor doesn't know about Nutritional Medicine may be killing you*, 2002, page 49, Thomas Nelson Publishers, Nashville.

21 - Dr. Soroush Habibi, *Nutritional Healing*, 2001, p149, Habibi Health Resources.

22 - Dr. Ladd McNamara, *Dr. McNamara's Medical Resource Manual*, 5th Edition, 1999, page 154-155, Orthomolecular Medicine.

23 - Dr. Soroush Habibi, *Nutritional Healing*, 2001, p142, Habibi Health Resources.