

# Enhance Your Nutrient Intake

## Follow these simple guidelines:

### ✓ Choose nutrient-dense foods

Whole grains and brightly colored fruits and vegetables typically have high nutrient levels. Choosing organic foods and lean, free-range sources of protein and fat is also important.

### ✓ Preserve nutrients during cooking

Avoid overcooking food to optimize nutrient retention. Whether baking, grilling, or steaming, fruits and vegetables should still be colorful and slightly crisp when consumed.<sup>21</sup>

### ✓ Buy fresh local foods

Reducing the amount of time foods are in storage or transit helps to preserve the naturally occurring nutrients in foods. Less transit also means less CO<sub>2</sub> generated in the atmosphere.

### ✓ Take high-quality nutritional supplements

Choose a high-quality, hypoallergenic nutritional supplement brand that is free of coatings, binders, artificial colors, added preservatives, hydrogenated oils or other unwanted excipients. These undesirable ingredients can diminish the bioavailability or health-promoting potential of the nutrients. Unlike foods, supplements also have the benefit of providing consistent levels of vitamins and minerals.<sup>22</sup> For specific health concerns, it is important to choose supplements that reflect active ingredients and dosage levels used in studies.\* Ask your health professional for more information.



\*These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.



Nothing But Pure

## WHY YOU NEED SUPPLEMENTS

Discover why you may not be getting optimal levels of essential nutrients.



490 Boston Post Road  
Sudbury, Massachusetts 01776 USA  
[www.PureEncapsulations.com](http://www.PureEncapsulations.com)  
800-753-2277



Pure Encapsulations® supplements are available through healthcare professionals.

©2017 Pure Encapsulations, Inc., All Rights Reserved

SUPBS

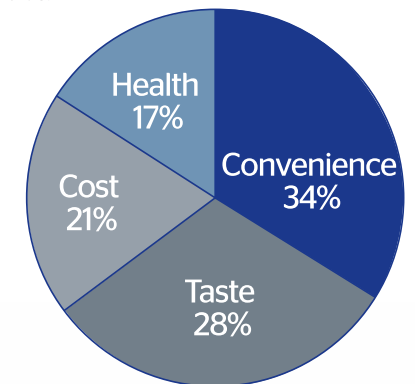
by Juniper Devecis, MS, RD, CCN

# Achieving Optimal Health

Today's diets are depleted of vitamins, minerals, essential fatty acids and other nutrients due to the quality of the modern food supply and our busy lifestyles. Combining a healthy diet and dietary supplements is the best approach to achieve optimal health.\*

## Food Choices Are Based On Convenience:

Modern lifestyles typically involve juggling work, family and other activities. This leaves little time devoted to quality food choices and meals, leading instead to selections based on convenience. These options tend to be higher in fat, refined carbohydrates and sodium, and usually involve extensive processing to enhance taste, which can destroy or remove nutrients. Furthermore, higher amounts of these types of foods are associated with marginal micronutrient intake and low serum concentrations of vitamin A, E, C, B<sub>12</sub>, folate and carotenoids.<sup>1</sup>



In a survey of almost 2,000 adults, the most important values in choosing a lunch were convenience and taste. Health was the least important value.<sup>2</sup>



\*These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.



# The American Diet Needs Improving

Data from the National Health And Nutrition Examination Survey (NHANES) indicates that only 40% of Americans ate the recommended five or more servings of fruits and vegetables per day.<sup>3</sup> Fruits and vegetables have been associated with overall health.<sup>4</sup> However, the standard American diet is typically characterized by a high intake of:

- Saturated fat
- Red meat
- Refined grains
- Sugar

Nutrition surveys show shortfalls in many nutrients, including calcium, magnesium, potassium, vitamin C, vitamin E and vitamin K.<sup>5</sup> Diets are also generally low in essential fats, which are critical for healthy cellular function and cardiovascular health.<sup>6\*</sup> Essential fats include:

- Omega-3 fatty acids: fish, flaxseed and walnuts
- Omega-6 fatty acids: vegetable oils, grains and seeds

Americans typically consume a diet that has a ratio of 15:1 omega-6 to omega-3 fatty acids. Research indicates that humans evolved with a dietary ratio closer to 1:1.<sup>7</sup>



# Facts About Today's Food Supply

Consuming a balanced diet that meets the recommended servings of fruits, vegetables, whole grains, essential fats and protein still may not ensure ample nutrient intake due to changes in our food supply. A comparison study evaluated potential changes in the average nutrient content of 43 fruits and vegetables between 1950 and 1999 and found the following results:<sup>8</sup>

- 6% decrease in protein
- 16% decrease in calcium
- 9% decrease in phosphorus
- 15% decrease in iron
- 38% decrease in riboflavin
- 20% decrease in ascorbic acid

## Food quality changes are the result of multiple factors:

### ✓ Storage time and maturity at harvest

Harvesting plants prior to proper maturity or delaying time between harvest and consumption diminishes nutrient content potential, particularly for fiber, vitamin A, vitamin C and phenolic compounds.<sup>9,10</sup> Additionally, nutrients can be harmed during storage or transportation. A 2004 study cited that storing tomatoes for 5 days decreased ascorbic acid by almost 13%.<sup>11</sup>

### ✓ Genetic selection

Modern fruits and vegetables are genetically selected, and in some cases modified, for shelf life, high yield or other growth characteristics rather than their ability to extract or synthesize nutrients from the environment. Compared with wild plants, most modern varieties are higher in sugar and lower in protein, fiber, vitamins, minerals and essential fatty acids.<sup>12</sup>

### ✓ Atmospheric pollution

High levels of atmospheric pollutants can limit the plants' ability to perform photosynthesis or overwhelm their detoxification capabilities. Elevated CO<sub>2</sub> in the atmosphere due to pollution increases the levels of sugar and starch in plants, while decreasing protein levels. Pollutants can also affect the plants' ability to extract nutrients from the soil, particularly calcium, magnesium and zinc.<sup>13</sup>

### ✓ Fertilization quality

Fertilization of the soil with isolated key nutrients such as nitrogen, phosphorus and potassium, as opposed to more comprehensive fertilizers, can alter the composition of plants and lead to nutrient losses. For example, plants raised on high-potassium soil have higher levels of potassium, but reduced levels of calcium and magnesium.<sup>14,15</sup>

### ✓ Environmental conditions

Differences in climate and soil type can cause large variations in nutrient content. Calcium-rich soil will produce plants higher in protein, while potassium-rich soils produce plants higher in carbohydrates. Regional rainfall can create wide variations in vegetable mineral composition, particularly for calcium, magnesium and potassium.<sup>15</sup>

### ✓ Farming practices

Free-range animals produce meat with significantly higher levels of omega-3 fatty acids and conjugated linoleic acid.<sup>16</sup> Dairy products made from grass-fed animals are also higher in vitamin A, E and beta-carotene.<sup>17</sup> Feed-lot fed animals produce meat containing lower levels of these critical nutrients. Antibiotics fed to these animals can also result in altered bacterial profiles, potentially altering gut microflora.<sup>18</sup>

### ✓ Industrial waste and contamination

Chemical residues and industrial waste, including heavy metals, pollute the land, water and food supply.<sup>19</sup> A 2004 analysis of 2,644 individuals found that "most people in the U.S. carry a significant body burden of pesticides and pesticide metabolites," with the average person testing positive for 13 out of the 23 analyzed. Estrogenic compounds, such as DDT and its metabolites, polychlorinated biphenyls (PCBs) and p-nonyl-phenol and bisphenol-A, are of particular concern.<sup>20</sup> Processing and neutralizing these toxins require increased levels of amino acids, vitamins and minerals.\*

# References

1. Kant AK. *Am J Clin Nutr.* 2000 Oct;72(4):929-36.
2. Blanck HM, Yaroch AL, Atienza AA, et al. Factors influencing lunchtime food choices among working Americans. *Health Educ Behav.* 2009 Apr;36(2):289-301.
3. Guenther PM, et al. Most Americans eat much less than recommended amounts of fruits and vegetables. *J Am Diet Assoc.* 2006 Sep;106(9):1371-9.
4. Bazzano LA, He J, Ogden LG, et al. *Am J Clin Nutr.* 2002 Jul;76(1):93-9.
5. Fulgoni VL, Keast DR, Bailey RL. Foods, Fortificants, and Supplements: Where Do Americans Get Their Nutrients? *J Nutr.* Oct 2011; 141(10): 1847-1854.
6. Harris WS, Mozaffarian D, Lefevre M, et al. Towards establishing dietary reference intakes for eicosapentaenoic and docosahexaenoic acids. *J Nutr.* 2009 Apr; 139(4):804S-19S.
7. Simopoulos AP. Evolutionary aspects of diet, the omega-6/omega-3 ratio and genetic variation. *Biomed Pharmacother.* 2006 Nov; 60(9):502-7.
8. Davis DR, Epp MD, Riordan HD. Changes in USDA food composition data for 43 garden crops, 1950 to 1999. *J Am Coll Nutr.* 2004 Dec;23(6):669-82.
9. Punna R, Rao Paruchuri U. Effect of maturity and processing on total, insoluble and soluble dietary fiber contents of Indian green leafy vegetables. *Int J Food Sci Nutr.* 2004 Nov;55(7):561-7.
10. Marín A, Ferreres F, Tomás-Barberán FA, Gil MI. Characterization and quantitation of antioxidant constituents of sweet pepper (*Capsicum annuum* L.). *J Agric Food Chem.* 2004 Jun 16;52(12):3861-9.
11. Molyneux SL, Lister CE, Savage GP. An investigation of the antioxidant properties and colour of glasshouse grown tomatoes. *Int J Food Sci Nutr.* 2004 Nov;55(7):537-45.
12. MP Scott, JW Edwards, CP Bell, et al. Grain composition and amino acid content in maize cultivars representing 80 years of commercial maize varieties. *Maydica.* 2006;51:417-423.
13. Taub DR, Miller B, Allen H. Effects of elevated CO<sub>2</sub> on the protein concentration of food crops: a meta-analysis. *Global Change Biology.* Mar 2008;14(3):565-575.
14. Bear FE, Toth SJ, Prince AL. Variation in mineral composition of vegetables. *Soil Sci Soc Am Proc.* 1948;13:380-384.
15. Albrecht, WA. *Our Teeth and Our Soils.* 1947. 6(4):199-213.
16. Daley CA, Abbott A, Doyle PS, et al. A review of fatty acid profiles and antioxidant content in grass-fed and grain-fed beef. *Nutr J.* 2010; 9: 10.
17. Searles SK, Armstrong JG. Vitamin E, vitamin A, and carotene contents of Alberta Butter. *J Dairy Sci.* 1970 Feb;53(2):150-4.
18. Forslund K, Sunagawa S, Kultima JR, et al. Country-specific antibiotic use practices impact the human gut resistome. *Genome Res.* 2013; 23: 1163-1169.
19. Wuana RA, Okieimen FE. Heavy metals in contaminated soils: a review of sources, chemistry, risks and best available strategies for remediation. *ISRN Ecology.* 2011; 402647: 1-20.
20. Schafer KS, Reeves M, Spitzer S, Kegley SE. *Pesticide Action Network North America.* May 2004.
21. Galgano F, Favati F, Caruso M, et al. The influence of processing and preservation on the retention of health-promoting compounds in broccoli. *J Food Sci.* 2007 Mar;72(2):S130-5.
22. Fletcher RH, Fairfield KM. *JAMA.* 2002 Jun 19;287(23):3127-9.

The information contained herein is for informational purposes only and does not establish a doctor-patient relationship. Please be sure to consult your physician before taking any product. Consult your physician for any health problems.

\*These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.