



By Dan Young

Micronutrients

Micronutrients are vitamins and minerals that all humans need to maintain strong bodies, mental sharpness and strong immune systems.

MICRONUTRIENTS

Excess attention is often given to the Macros; i.e. Protein, Carbs and Fats. Understanding the correct ratios and the timing of them can make a profound difference between success and failure in the gym; but what about the little guys? The Micronutrients can they help too?

VITAMINS AND MINERALS

These Micronutrients are present in the diet and in the body in small amounts. They represent only about 4% of your body's total weight. They are measured in milligrams and micrograms and are organic compounds that the body needs for the maintenance of good health and for growth. Vitamins can not be manufactured by the body; therefore you must get them from food. They are not usually metabolized for energy, but some are essential for the production of energy from the Macronutrients you eat by acting as cofactors in making molecules. In addition, they play various structural roles, and function as electrolytes and enzymes. Minerals, on the other hand are inorganic nutrients that are essential



structural components in the body and are necessary for many vital metabolic processes.

Your body may only need infinitesimal amounts of Vitamins and Minerals in your daily diet, but they can have big implications on your overall health as well as giving you that critical edge when competing or just losing that last five pounds. For example, the average person may only need 30 milligrams of Vitamin C in their diets daily to remain healthy. But, remove this valuable vitamin and watch your health decline into a pernicious state of scurvy. Screw with your Micronutrients and they can screw with you.

MORE MICRONUTRIENTS

In addition to the essential Vitamins and Minerals, a host of micronutrients exist that are manufactured in the body but that can still be provided through foods or supplements for additional benefits. These substances, called metabolites, are also sometimes known as Accessory Nutrients. For athletes, many of these Accessory Nutrients can improve performance. Carnitine for instance, essential for the oxidation of long-chain fatty acids into energy, has been shown to benefit fat metabolism and increase endurance when taken in supplemental amounts. Inosine is touted for its energy-enhancing effects and usefulness in power sports. Creatine has now been proven effective in strength training and endurance.

HOW MUCH?

Until the late 1970's, Vitamins and Minerals were only researched to determine levels needed to avoid deficiencies. Today, however, more and

more research is concluding that specific levels of Micronutrients can affect performance. If you exercise in the gym, pool, track or on the court, you put your body through stress. Different exercises require different levels of nutrition. When you stress your body, more specific nutrients are required for repair. Finding the right levels and types for you is as personal as your toothbrush. It's hard enough to get the right ratios of Carbs, Protein and Fats and now you need to worry about vitamins and minerals too! Don't sweat it.

If you focus on eating the correct ratios of quality Macros; approximately 55/30/15%, respectively, and make sure the sources are good, then the chances you are receiving the necessary Vitamins and Minerals to yield good health are likely. Your Carbs should come from Organic and Natural Whole Grains, Veggies, Legumes and Fruits, Proteins from Free Range and Organic Beef, Poultry and Fish and healthy Fats from Olive Oil, Nuts, Salmon and Flax.

ATHLETES REQUIRE MORE

Because of the level of processing that most of our foods undergo, not to mention soil degradation and the stresses of exercise, there is a good chance that your diet is not going to provide the necessary Micronutrients to help you achieve your goals. Combine this with poor eating choices and the timing of same and you can imagine that you are probably not receiving Optimum Nutrition. Supplements can absolutely top off your tank. Do your research first and remember too much can be just as harmful as too little.

Eat well and remember, you are what your food eats!

Dan Young is President and CEO of Performance Food Centers, Corp. He is certified in personal training, sports nutrition and is a triathlete. He has competed in Body Building as well as Endurance Sports Activities. Accomplished in juice bar concept and design, he applies this knowledge to whole-foods nutrition and the efficiency to serving them.