

FUELING WITH FRUITS AND VEGETABLES

WHAT ARE FRUITS AND VEGETABLES?

Fruit and vegetables are nutrient-rich plant foods that provide your body with many of the vitamins and minerals it needs to function on a daily basis, in addition to other nutrients like fiber, antioxidants, and various plant compounds.

Together, vitamins and minerals are known as micronutrients since they are required by the body in small amounts, but do not provide calories like macronutrients (carbohydrate, protein and fat). Micronutrients are essential to every metabolic process in your body! They help create energy from the food you eat, strengthen your immune system, fight off disease and illness, build strong bones, enhance recovery from exercise, and so much more. Think of micronutrients as the “behind the scenes crew” working to pull off a big concert or the presidential address; you don’t know they’re there, but without them the show would not go on.

WHY DO YOU NEED FRUITS AND VEGETABLES?

Exercise stresses many of the metabolic pathways in which micronutrients are required, making it important for you to eat a variety of nutrient-rich foods, including fruits and vegetables, to provide your body with adequate vitamins, minerals, and antioxidants for health and performance.

While you can obtain the vitamins and minerals you need by eating a well-rounded, balanced diet including all of the food groups, there are some nutrients of concern, especially for those that restrict energy intake, eliminate one or more food groups, and/or consume poorly chosen diets.

Vitamin C for Iron Absorption

Periods of rapid growth, training at high altitudes, menstrual blood loss, foot-strike hemolysis, blood donation or injury can negatively impact iron status. In intense training you may also have increased iron losses in sweat, urine and feces. Regardless of how it occurs, a compromised iron status can negatively impact health, physical and mental performance. You should strive to consume adequate heme iron (animal based) from foods like lean beef, chicken and eggs. If you are consuming more iron from non-heme iron sources (plant based), you should consume a vitamin C rich food with the plant-based

food containing iron. Examples include a spinach salad with tomatoes or citrus fruits, beans and rice cooked with red and green bell peppers, peanut butter on whole grain toast with strawberries.

Calcium and Vitamin D

Calcium and vitamin D work in concert together to build bone; without adequate vitamin D the body can only absorb about 10-20% of the calcium consumed. The best sources of calcium in the diet are dairy foods (cow’s milk, cheese, and yogurt), but some calcium can also be found in fortified plant foods like soy milk and others. Vitamin D can be found in milk, egg yolk, and fatty fish (salmon, trout, tuna, mackerel, sardines), but is ideally “consumed” with 15-20 minutes of sunlight exposure in the middle of the day.

Antioxidants

Antioxidant nutrients play important roles in protecting cell membranes from oxidative damage (damage done to the cells). Vitamins A, C, and E, as well as selenium, zinc, and copper are classified as antioxidants. Polyphenols and flavonoids found in plants also have antioxidant properties, and animal and plant proteins provide the body with an abundance of zinc and selenium. Bright colored fruits and vegetables are the body’s biggest suppliers of antioxidants as they are full of the nutrients required to help the body repair, recover, and stay healthy.

It is important to note that vitamin and mineral intake should come from food as much as possible. The intake of vitamin and mineral supplements does not improve performance unless reversing a pre-existing deficiency.

HOW MANY FRUITS AND VEGETABLES DO YOU NEED?

Fruit and vegetables intake is based on gender and age. Both fruits and vegetables provide growing athletes with the nutrients your bodies need to function properly, recover from exercise, and fight off disease and sickness. To obtain the vitamins and minerals your body needs, focus on eating a variety of colors of fruits and vegetables. Each color supplies the body with a specific package of nutrients, so the goal is to eat a rainbow of colors.

FUELING WITH FRUITS AND VEGETABLES (CONT.)

GIRLS		
Food	9-13 years old	14-18 years old
Vegetables	1 ½ - 3 cups	2 ½ - 3 cups
Fruit	1 ½ - 2 cups	1 ½ - 2 cups

BOYS		
Food	9-13 years old	14-18 years old
Vegetables	2 - 3 ½ cups	2 ½ - 4 cups
Fruit	1 ½ - 2 cups	2 ½ - 2 cups

Examples of 1 cup equivalents from the vegetable group:

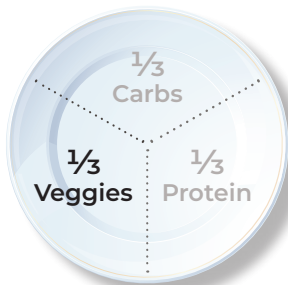
- 1 cup raw or cooked vegetables
- 1 cup vegetable juice
- 2 cups leafy greens

Examples of 1 cup equivalents from the fruit group:

- 1 medium, baseball-size fruit
- 1 banana
- 1 cup chopped fruit or berries
- 1 cup 100% fruit juice
- ½ cup dried fruit

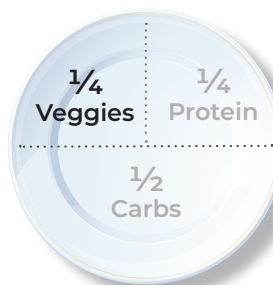
HOW DO YOU SHAPE AN ATHLETE'S PLATE WITH FRUITS AND VEGETABLES?

Regular Training Day



If it is a regular training day, make **1/3 of your plate vegetables at lunch and dinner**. This can include roasted, sauteed or steamed veggies or salad.

Competition Day



If it is a competition day, a day where you are training twice or a day with extended practice times, then make **1/4 of your plate vegetables**. This will allow for more carbohydrate to help provide the energy required for greater amounts of activity.



One-half cup to a whole cup of fruit should be consumed a few times a day for male and female athletes. This can be as part of a meal or can also be a part of one or more snacks consumed throughout the day.