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Nutrition in the Fast Lane

Good nutrition is vital for top performance. Both the competitive athlete and the individual involved in a fitness program benefit from a nutritious diet—there's no magic involved!

A diet which supplies enough, but not too much, carbohydrate, fat, protein, vitamins, minerals and water is important to all athletes.

Exercise and Energy Use

- Glucose is the primary fuel source for high-intensity, short-duration exercise.
- When exercise continues for 5 minutes or longer, both glucose and fat are used for fuel.
- If exercise continues, fat becomes the major fuel for muscles.
- Endurance events use the glycogen (a form of glucose) stored in muscles.
- Carbohydrate loading is a dietary manipulation used to increase muscle glycogen stores. The larger these stores are, the longer fatigue may be avoided.

Caution: Carbohydrate loading causes unpleasant side effects—fatigue, nausea, irritability, water retention, and weight gain. Exercise during depletion may cause heart irregularities.

Carbohydrate loading should be used **only** by endurance athletes under the supervision of an expert.

- High-protein, high-fat foods are not the best pre-game meal; they take longer to digest than carbohydrates and may cause stomach upsets.

Carbohydrate

- provides energy for body processes.
- is the preferred fuel for muscles.
- is the most economical source of energy.

Fat

- supplies the essential fatty acids.
- provides fat soluble vitamins.
- is a concentrated source of energy. It has twice the calories of carbohydrate or protein.

Protein

- is necessary for growth, repair, and maintenance of body tissues.
- is necessary for the production of hormones, enzymes and antibodies.
- overconsumption may cause stress on the liver and kidneys.
- overconsumption does not build extra muscle nor give a competitive edge.

Vitamins and Minerals

- Rely on a variety of foods to supply the necessary vitamins and minerals.
- Mega-doses may interfere with the use of other nutrients.
- Iron deficiency may affect performance because insufficient oxygen reaches muscles to allow them to work efficiently.
- Women and growing children may lack enough iron in their diets.

Water

- is necessary for all body processes.

Activity and Energy Needs

Activity Level	Calories used per minute
Sleeping	1
Very light exercise. Office work, driving, reading, watching TV, studying, telephoning, typing	2
Light exercise. Housework, shopping, golf, volleyball, walking slowly, fishing, riding horseback at a walk	2—5
Moderate exercise. Walking fast, playing tennis, gardening, skiing downhill, bicycling slowly, hiking, dancing slowly, swimming leisurely, playing baseball	5—7
Heavy exercise. Playing basketball, weight lifting, playing football, running, cross-country skiing, bicycle racing, horseback riding at a gallop	7—12

- prevents dehydration during strenuous exercise and warm weather.
- can be provided by diluted fruit juice. Athletic beverages are not needed.

No one food or dietary product will enhance performance.

Supplements

- Protein supplements don't enhance performance and may cause dehydration or create stress on the liver and kidneys.
- Supplements of vitamins or minerals in the form of pills, liquids, powders or highly fortified foods are unnecessary, don't aid performance, and may be dangerous to your health.

Use this information as a foundation for good nutrition—and better performance. Follow these guidelines in designing your food plan.

After selecting minimum amounts from these basic foods, choose additional food and beverages to meet your energy needs. If you exercise regularly you may need to eat 500 to 1,000 calories a day more than a person who doesn't exercise—just to maintain your ideal weight.



OREGON STATE UNIVERSITY EXTENSION SERVICE

The secret of good physical performance is hard training,
natural talent, motivation, and good nutrition.

Fitness Food Plan



At least 4 servings daily

A serving is $\frac{1}{2}$ cup or a medium-size fruit or vegetable. Be sure to include vitamin C sources—citrus fruits, berries, tomatoes, and potatoes, as well as vitamin A sources—dark green and deep yellow vegetables and fruits.



Two servings for adults a day

A serving is 1 cup of milk, yogurt, a 2-inch cube of cheese, or $1\frac{1}{2}$ cups ice cream. These foods supply protein and calcium.



These foods provide little other than calories. Don't let them replace foods from the other groups. For successful performance, don't consume alcohol before or during exercise.



At least 4 servings daily

A serving is one slice of bread; a tortilla or pancake; $\frac{1}{2}$ cup cooked cereal, rice, or pasta; or 1 ounce of ready-to-eat cereal. These products are made with grain or flour or meals. Whole grains are best.



Two servings daily

A serving is 3 oz. cooked lean meat, poultry or fish; 2 eggs; 1 cup cooked dried peas or beans, or $\frac{1}{4}$ cup peanut butter. These foods provide protein and iron. Choose lean cuts of meat.



Water

Drink plenty everyday.

The hotter the weather and the more active you are, the more water or fluids you need to dissipate heat, transport nutrients, and eliminate wastes. Drink water before, during, and after exercise.

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