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Nutritional needs of the recreational athlete

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WHETHER an individual is a recreational athlete, a physically active person, or a competitive athlete, proper daily nutrition will enhance overall health, improve exercise performance, prevent injuries due to fatigue, provide energy during high-intensity training, and facilitate maintenance of an optimal body weight. Knowledge of the contributions of nutrition and exercise to optimal health is vital for the recreational athlete.

Defining the Recreational Athlete

The definition of a recreational athlete should be considered. For example, would the following individual be classified as a recreational athlete, a physically active person, or a competitive athlete?

> At six a.m., the person walks a dog for 20 minutes, uses the stairs instead of the elevator at work, lifts weights for forty minutes in the afternoon, and plays in a volleyball game at a local gym in the evening.

This person could be classified as physically active on the basis of dog walking, stair climbing, and weight lifting, but could also be classified as a recreational athlete or competitive athlete on the basis of participation in competitive volleyball.

A *recreational athlete* can be defined as a person who is physically active but who does not train for competition at the same level of intensity and focus as a competitive athlete.[1] He or she participates in sports to be physically fit, socially involved, and mostly to have fun. Some recreational athletes are former athletes who still enjoy competition within his or her age group (e.g., Masters Events). Another recreational athlete may play in a league, (e.g., bowling) for two to three months and his or her physical activity is performed only one night a week during that period. Yet, playing backyard badminton is considered a recreational activity. *Physical activity* is any body movement produced by muscles that results in energy expenditure; thus, the term physically active refers an individual who participates in a planned repetitive movements that are structured to improve and maintain physical fitness (i.e., the ability of the body to adapt to the demands and stresses of physical effort).[2] A *competitive athlete* is an individual who participates in "competitive physical activities" or sports/games that require physical strength, agility, or stamina.[2]

Regardless of the classification of the individual in the example, nutritional needs are specific for the individual's level of activity intensity. Some researchers suggest that a recreational athlete does not require sport-specific nutritional advice, but simply needs to be provided with general nutrition guidelines. They assume that a recreational athlete does not compete or train at a level of intensity comparable to that of a collegiate athlete or a professional athlete. Actually, recreational athletes train at various intensity levels for a variety of reasons. Consequently, they need adequate energy intake, a fluid intake that is adequate to maintain hydration and electrolyte balance, and a variety of food choices that will provide a balance of nutrients in order to perform at an optimal level. Sports nutritional guidelines for the competitive athlete will also benefit the recreational athlete. For example, competitive athletes are advised to consume carbohydrates as the main source of energy from foods such as whole grain products, fruits, vegetables, legumes, and low-fat dairy products. This recommendation is also applicable for the noncompetitive individual. Although weightlifters and endurance athletes require greater amounts of protein than other athletes, most athletes consume a similar percentage of protein in the diet as the general

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population. Athletes and nonathletes generally follow similar dietary guidelines for consumption of vitamins, minerals, water, and electrolytes.

Assessing a Diet Plan

Recreational athletes must first determine if they are ingesting a healthy diet to maintain optimal health. Are they following the basic 2005 Dietary Guidelines?[3] The 2005 guidelines sum up the current recommendations for healthy individuals over the age of two regarding nutrition and lifestyle (including physical activity) for good health. These guidelines are the means toward helping people reduce the risk of many diseases, of which a correlation between diet and lifestyle choices has been established. So many individuals who do not eat a healthy, balanced diet on a daily basis begin developing symptoms such as fatigue, inability to focus, and lack of energy. Instead of evaluating their current nutritional plan for deficiencies, they seek out the latest supplement that they think will appease these symptoms. The 2005 Dietary Guidelines could help the recreational athlete avoid symptoms of an unhealthy diet.

The following is a partial list of the nine categories that compile the 2005 Dietary Guidelines:

1. Consume a variety of nutrient-dense foods and beverages within and among the basic food groups, but be careful not to exceed the amount of daily calories you need to maintain a healthy weight.
2. Maintain a balance between the amount of calories consumed daily and the amount you need to maintain a healthy weight.
3. Try to be physically active every day.
4. Eat a variety of foods from the food groups listed in MyPyramid.[4]

For a complete listing of the dietary guidelines and a comparison of the nutritional needs of a recreational athlete to that of an inactive individual, visit www.healthierus.gov/dietaryguidelines.[3]

You have adjusted your dietary plan to include the 2005 Dietary Guidelines but you want to know if you are consuming enough calories for your activity. Are you eating too many servings of grains or a small amount of vegetables? Unfortunately, a "one size fits all" diet cannot be suggested for all recreational athletes. Every recreational athlete works out at different workload intensity with specific goals in mind for that workout. During the activity, the individual is increasing their energy expenditure or "burning calories." Thus, how many calories from food must be consumed to perform your recreational activity in addition to your daily activities? The level of intensity must be determined and is classified using the terms sedentary, moderately active, and active. How is your level of activity classified? The Centers for Disease Control and Prevention (www.cdc.gov)[5] has examples of general physical activities as defined by level of intensity:

1. Sedentary — partaking in less than 30 minutes of moderate physical activity in addition to daily activities.
2. Moderately Active — Partaking in at least 30 minutes and up to 60 minutes a day of moderate physical activity in addition to daily activities.
3. Active — partaking in 60 or more minutes a day of moderate physical activity in addition to daily activities.

Once you determine your level of intensity, you can go to MyPyramid at www.MyPyramid.gov[4] and determine the number of calories/day you require which is based on your age, gender, and level of intensity. MyPyramid (formerly the food guide pyramid) reflects the principles outlined in the Dietary Guidelines and is a food guidance system that can be used to teach consumers about basic nutrition.[1] Although very helpful, MyPyramid has two drawbacks: Serving sizes are small and do not always coincide with the standard amounts of food we buy, prepare and serve. It is difficult to distinguish between higher fat and lower fat food choices within certain food groups. [6]

Let us look at Alana (a 28-year-old female) who swims one hour daily to prepare for a Master's swim meet. She sits at a computer from 9 a.m.–5 p.m. and looks forward to her daily workout. Based on this information, she is considered *active* and she should consume 2,400 calories/day. MyPyramid will also guide her regarding the number of servings she needs from the whole grains, vegetables, fruits, oils, milk products, and meat and beans food groups. Based on the required 2,400 calories she needs, she should incorporate the servings from each of the food groups in MyPyramid into her daily routine (Table 1). To learn more about serving sizes and portion control, visit the National Heart, Lung, and Blood Institute's Portion Distortion Quiz at http://hp2010.nhlbihin.net/portion/index.htm.[7]

Meal Planning

Setting up a healthy meal plan based on the number of servings determined for each food group can be challenging for a person with a busy schedule. The Exchange System is commonly used by RDs and LDNs when counseling clients. Exchanges are organized according to the amount of carbohydrate, protein, fat, and calories in each food. There are six exchange lists, which can assist in meal planning. Athletes are encouraged to select food from each of the food exchanges (based on the designated number of servings) that they enjoy eating. Thus, the athletes are creating their own meal plan, which heightens compliance. Please visit the American Dietetic Association's website (www.eatright.org[8]).

Meal Planning Exchange Lists for foods identify the six food groups or exchange lists. Using the exchange list, Alana's 2,400-calorie meal plan could incorporate the food choices listed in Table 2.

Table 1. Servings Per Food Group for 2,400 Calorie Diet

Caloric Level	Grains (oz eq)	Vegetables (cups)	Fruits (cups)	Oil (tsp)	Milk (cups)	Meat and Beans (oz eq)
2,400	8	3	2	7	3	6.5

General Sports Nutrition Guidelines for Recreational Athletes

1. Following the principles of a healthy diet (as presented in this article) is the first step in your sports nutrition meal plan. Tracking the number of servings per day as determined by MyPyramid provides the recreational athlete the appropriate amounts of macronutrients and micronutrients needed for daily activities in addition to any physical activities. Macronutrients (needed in large amounts) are considered carbohydrates (45–55% of total calories/d), protein (12–15% of total calories/d), and fat (30% of total calories/d); all provide energy (calories) for the active individual, that is the body breaks down these nutrients and reorganizes them as energy. Micronutrients (needed in small amounts) are considered vitamins, and minerals do not provide energy (calories). Vitamins assist in breaking down the macronutrients for energy and regulate biological processes. Minerals play a critical role in the regulation of many body functions. Water is the number one nutrient essential for all body functions and our continued subsistence.
2. Drink fluids to maintain hydration and balance of electrolytes (e.g., sodium, potassium, and magnesium). Use of sports drinks, which contain electrolytes, should be used on an individual basis depend-

Table 2. 2,400-Calorie Meal Plan

Meal	Starch (Grains)	Vegetables	Fruit	Fat (Oil)	Nonfat Milk	Lean Meat
Breakfast	2 slices toast		1/2 cup orange juice	2 tsp margarine	1 cup skim milk	1.5 oz cottage cheese
Snack	3 graham crackers		½ cup canned fruit			
Lunch	2 slices bread	½ cup cooked string beans 1 cup salad ½ cup tomato juice		1 tsp mayonnaise 4 tbsp low-calorie dressing	¾ cup low fat yogurt	3 oz chicken
Snack	¾ cup cereal		1 small banana		1 cup non-fat milk	
Dinner	2/3 cup rice	½ cup squash ½ cup wax beans				2oz fish

ing on the environment (hot humid weather) and the conditioning level of the individual. For more information on hydration, visit www.nata.org[9] to review the position paper on fluid replacement.

3. Preevent meals should be eaten 3–4 hours prior to the event. Avoid meals containing high fat and high protein. Post event meals need to be consumed one to two hours post activity. Consuming water, carbohydrates, and a small amount of protein within in 1–2 hours of completing an activity will determine the recovery and energy level of the recreational athlete for the following day of activity. For more information on pre and post-event meals visit www.ext.colostate.edu/PUBS/FOODNUT/09362.html.[10]
4. Nutritional "training" is always a sizzling topic: what to eat, how much protein, which energy bar is better, etc. If you are looking for nutritional information, where do you look? The web sites, infomercials, fitness magazines, personal trainers, etc., all offer their opinion of what to do, but who is correct and do they have strong motivation for promoting a certain product or program? It can be very confusing for the recreational athlete. Nutritional propaganda can do as much harm to the motivated athlete as high-quality nutrition can help. The websites references throughout this article are very trustworthy. A suggested general guideline is to look at the end tag of the website; if it ends in "org," "edu," or "gov," they are reliable websites. For example, the American Dietetic Association is located at www.eatright.org. If it doesn't end in the aforementioned end tags, the name of the website can sometimes guide the reader. For example, http://hp2010.nhlbihin.net/portion/index.htm ends in net. However, it is web site of the National Heart, Lung, and Blood Institute.

Conclusion

Fueling your body for recreational activities must begin with the basics. Are you eating a healthy diet? Once you have established your energy needs and servings from the various food groups, planning your meals can be very easy with the Food Exchange Lists. Choosing the foods you enjoy will help you comply with the designated serving of food per day. Be very leery of websites that offer quick weight loss or supplements, which guarantee improved performance. Stick with the basics of sound nutrition, and healthy years of physical activity will prevail. ▮

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Please note: Many elite and professional athletes seek professional counseling from a registered dietitian (RD) or Licensed Dietary Nutritionist (LDN) to fine tune their nutritional program specific for their individual needs when optimal nutrition is essential for peak performance. Specific nutritional needs are determined by the athlete's current body weight, total energy needs, the specific metabolic demands of their sport and the current stage of training, or competition schedule. Recreational athletes who have questions regarding sport nutrition beyond the scope of MyPyramid.gov. should consult with an RD or an LDN.