

CHAPTER 1

THE DAILY PERFORMANCE DIET: YOUR KEY TO GOOD TRAINING AND GOOD HEALTH



Because you regularly put in hours of training for your chosen team sport or sports, your daily food intake has a significant effect on your recovery and your ability to build strength and muscle, and provide fuel during your daily workouts. In whatever sport you are involved at the high school, college, club, or professional level, the training sessions that you complete on a weekly basis require that you choose the right amounts and types of foods and fluids at the best times. Your nutrition efforts can maximize your various types of training efforts, whether during a team practice or when weight training, and replace fuel depleted during training. Optimal daily nutrition strategies and recovery means that you make the most of each training session and arrive to competition in the best form possible. You must meet the nutritional demands placed on your body in order to derive the maximum benefit from your training program.

Trained bodies also benefit from premium fuel by staying healthy. If you suffer from lackluster training days, injuries, and frequent infections such as colds, you may not be making the highest-quality fuel choices possible. Your body requires more than forty-five different nutrients for optimal functioning. Take a proactive and sensible approach to planning your diet by consuming a wide variety of wholesome foods in moderate amounts for the full spectrum of nutrients they provide. When it comes to nutrition, athletes participating in team sports should keep the big picture in mind when balancing their diet and appreciate that quality foods can taste good as well as fuel their active and well-trained bodies.

Variety, Balance, Moderation, and Quality

It takes planning, thought, and maybe some assistance to put together a diet balanced in nutrients. One clear way to regard and organize your diet is through food groups.

Often foods are grouped according to their carbohydrate, protein, and fat content, as the proper balance of these nutrients supports good health and gives an athlete training and competing in a team sport the proper ratio of nutrients and fuel for exercise and recovery. Foods may supply one of these three nutrients or a combination of two or three of these nutrients. For example, fruits are predominately a source of carbohydrate, while skim dairy milk is a source of both carbohydrate and protein.

You should also appreciate that foods are complex, providing nutrients beyond their basic carbohydrate, protein, and fat content and also containing important vitamins and minerals. While a morning glass of orange juice may be a good source of carbohydrate, it is also an excellent source of vitamin C and potassium. Vitamins and minerals are also essential to both your athletic performance and good health. Eating a variety of wholesome foods at meals and for snacks allows these nutrients to work together to improve the overall quality of your diet.

While a variety of foods are available in the North American diet, excessive amounts of highly processed foods are also available. Unprocessed and nutrient-dense foods should be emphasized in your diet as they provide a higher nutritional value than comparable processed foods in similar serving sizes. For lifelong good health and top performance, it is best if processed foods are not a mainstay in your diet. When you do choose a wholesome and varied diet the majority of the time, there is still some room for enjoyable foods that may not be as high in nutrients.

All nutrients are an important part of your diet. Whether you are weight training or practicing with your teammates, some carbohydrate is burned for energy. An adequate fluid intake supports delivery of nutrients to your body's cells when training. Healthy red blood cells are supported by an adequate intake of iron, vitamin B12, and folic acid. Healthy bones are also maintained when you consume not only enough calcium but also magnesium and vitamin D. Clearly, it is important to have the right balance of nutrients in your diet. Table 1.1 outlines the basic functions of the important nutrient classifications in your diet.

The optimal proportions of carbohydrate, protein, and fat for the athlete participating in team sports can vary somewhat from sport to sport, the position played in certain sports, and the type of training session in which you are participating. But because of the unique fuel requirements of weight training, stop-and-go training, power workouts, and two-a-day practices, it is generally recommended that your diet provide about 50 to 60 percent carbohydrate, 15 to 20 percent protein, and 20 to 30 percent fat. It is important to keep in mind that these percentages are all relative to the number of calories or the total amount of energy that your body requires to match up with your training needs that

TABLE 1.1 NUTRIENTS AND THEIR FUNCTIONS

Nutrient	Functions	Food Sources
Water	Carries oxygen and nutrients to cells Plays a role in digestion Cools the body through sweat production Important role in many cellular processes Important part of muscle tissue	Tap water Bottled water Fruit juices, dairy milk, soy milk Solid foods that contain water: fruits, vegetables, yogurt
Carbohydrate	Primary high-energy fuel source during exercise Replenishes body stores Provides dietary fiber	Grains, breads, cereals, rice, pasta Fruit and fruit juices Vegetables Dairy and soy milk, yogurt
Protein	Provide essential amino acids Required for maintaining and developing muscle and other body tissue Essential component of enzymes, hormones, and antibodies Needed for the formation of hemoglobin	Meat, poultry, fish, cheese, egg Soy, dried beans, lentils Dairy and soy milk, yogurt
Fat	Provides essential fatty acids Provides fat-soluble vitamins Adds flavor to foods Used as a fuel source Protects and insulates body organs Component of cell structures	Liquid oils Margarine and butter Nuts and seeds Avocado Fish
Vitamins	Enhance energy production Involved in tissue repair and protein synthesis Play a role in red blood cell formation Act as antioxidants	Fruits and vegetables Lean protein foods Whole grains Nuts and seeds
Minerals	Involved in energy production Play a role in building body tissue Play a role in muscle contraction Involved in oxygen transport	Fruits and vegetables Leans proteins Whole grains Nuts and seeds

day. Variations in these percentages can be adequate if that is what suits meeting the fuel demands of that day's training session. What is important is that you sufficiently replace the carbohydrate stores burned for fuel, consume enough protein for repair and rebuilding, and balance out your calorie needs with healthy fats. When the energy and fuel breakdown of your dietary intake matches and replaces what you burned and utilized that day, your recovery is enhanced and so is the quality of subsequent training sessions.

First, let's take a look at some of the food choices available from carbohydrates, proteins, and fats, so that you can appreciate which options are the most nutritious. How

you portion and time these foods with your training is what distinguishes your sports nutrition diet from an ordinary healthy diet. More information on the timing and portioning of these fuels in relation to your training session, and how your diet replenishes your body stores on a daily and weekly basis, will be reviewed in Part II: Training Nutrition.

CARBOHYDRATES PROVIDE ENERGY

Classifying Carbohydrates—It's Not So Simple

Many athletes are familiar with the traditional classification of carbohydrates. Simple carbohydrates, often called “sugars,” consist of one or two molecules, while complex carbohydrates or starches are composed of up to thousands of carbohydrate molecules joined together. What was long advised regarding these foods was that simple carbohydrates such as fructose and other sugars cause a rapid rise and subsequent fall in blood sugar that results in fatigue, and that these sugars are less nutritious. Conversely, it was maintained that complex carbohydrates resulted in a more gentle blood glucose rise and are more nutritious foods. In summary, simple carbohydrates were considered “bad” and complex carbohydrates were “good.”

While this classification might seem logical, recent scientific data indicate that it is an outdated concept. What team sport athletes should truly be concerned about is the quality of the carbohydrate they consume, with an emphasis on wholesome versus refined sources. Wholesome carbohydrates provide vitamins, minerals, and fiber, while refined carbohydrates are processed foods with a much lower or poor nutrient content, providing little other than carbohydrate calories. What is important to appreciate is that wholesome carbohydrates are not always complex, and refined carbohydrates are not always simple. Fruit, a simple carbohydrate, is packed with nutrients, while products made from complex white flour such as white bread often have a much lower vitamin and mineral content. For optimal training and good health, wholesome carbohydrates are a very important component of your diet, because they are higher in nutritional value.

In addition to viewing carbohydrates as wholesome or refined, we can also categorize them according to how they affect blood sugar or blood glucose levels. The belief that simple carbohydrates cause a rapid rise in blood glucose and that complex carbohydrates cause a slower rise in blood glucose is outdated. Recent nutrition research has demonstrated that each carbohydrate food produces its own unique blood glucose profile that does not correlate with the simple-versus-complex classification.