Marie Murphy Health & Fitness

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The Mix is as Important as the Amount for Optimum Results

Proper nutrition is essential for everyone. It is especially important if you are embarking on a fitness programme, from walking to running a marathon. No training programme will allow us to achieve our full potential without a well-balanced nutrition programme. I remember making a change in my nutrition two years prior to the Olympics that I felt contributed to me making the Irish team. I needed an extra edge in my training and found I could achieve it by making a couple of changes to my diet. I cut back on the amount of dairy I was eating in my day and increased my grams of carbohydrates. Those extra carbohydrates were the difference of me being able to hold the intensity, frequency and volume of my training programme for a longer period of time. In this case it was a two-year training programme without any interruptions or setbacks in my workouts. I felt I had a higher energy level and my recovery was much quicker. Getting the most out of your workouts and repairing your muscles from stress placed on them comes from fueling our bodies properly. We have to know what to eat before, during and after our workouts to maximise our training efforts and reduce our risk for injury. Food fuels our muscles, and all food is converted into glucose and burned for energy; food not used as glucose is converted to and stored as fat. It is not only important to get the right amount of fuel. It is vitally important that you mix the fuels--carbohydrates, protein, fat and water--in the proper portions to optimise your performance.

The Fuels -- Carbohydrates, Protein, Fat, Water

Carbohydrates

The easiest fuel to breakdown for energy is carbohydrates. Carbohydrates are our main source of energy. Out of 1600 calories stored in our body, 1200 are stored in the muscles and 400 are stored in the liver. The more glycogen you can store in the muscles, the longer you can train or workout. To maintain an active lifestyle, your nutrition should always be high in complex carbohydrates. Carbohydrates come from fruits, vegetables, cereals, rice, pasta, grains and juices. We need to make sure we are eating adequate amounts of carbohydrates to maintain our energy expenditure.

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A diet with lots of fruits and vegetables are shown to decrease the risk of many diseases. As the volume of your training increases so too should the amount (grams) of your carbohydrate intake. Training increases the size and number of muscle mitochondria, which in turn allows you to store more glycogen to go a further distance without fatiguing. If you do not increase your glycogen intake in conjunction with your increased training, you will not benefit from your training efforts and those extra mitochondria cells will never learn to store the extra glycogen.

Protein

Protein is the main fuel for rebuilding. Proteins are nutrients essential to physical performance and high-level health because of their role in growth and maintenance of our bones, muscles, tendons, ligaments and connective tissue. Proteins play a small role in providing energy when compared to carbohydrates. Therefore it is best utilised after your workout to repair your body from the stress placed on it. Protein comes from meat, poultry, fish, produce, some green leafy veggies, beans, legumes, nuts and eggs. Protein takes a much longer time to process and break down to be used as fuel for energy. It should not be looked upon as a means to increase muscle glycogen. 1.2-1.7 grams per kg of your body weight daily should come from protein to maximise repairing and performance.

Fat

Fat is another high-energy fuel. Fat is an important fuel source for exercise and activity and is essential in metabolic regulation. Most people do not typically need to make a special effort to eat fat, in order to get enough of it; our bodies have enough fat. However, our bodies cannot utilise fat without glycogen, so again we rely on the proper intake of carbohydrates to maximise our energy expenditure. Excess fat that you eat causes the release of a brain chemical called serotonin. Serotonin is known to cause sleepiness and fatigue. What the body does not use gets stored as body fat, potentially leading to obesity. Obesity can lead to other serious health problems and can greatly compromise your potential for an active lifestyle. 1 gram per kg body weight should come from fat. Of that 1 gram, less then 0.5 grams per kg body weight should come from saturated fat to maximise your training programme. Good choices of fat come from fish (salmon has both omega 3 and omega 6), olive oil, almonds and soybeans.

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Water

The fourth "fuel" needed is water. Although water has zero calories, it is essential that we consume it to support body functions. Water makes up about 60% of the body's weight. It carries nutrients throughout the body, cleanses the blood, facilitates the exchange of nutrients and waste throughout the body, acts as a lubricant around joints, serves as a shock absorber, assists in delivering electrical signals between nerve cells, and aids in maintaining the body's temperature. Water is also one of the most neglected nutrients that athletes overlook in their training programme and competition.

A rule of thumb to determine the amount of water you should consume is calculated as follows:

1) Take your body weight in pounds, 2) cut that number in half, 3) this is the number ounces of water you should be consuming in a given day.

The rule of thumb only applies to the water you need to maintain hydration at rest and does NOT include the water needed to replenish water loss for any given workout. So, let's say your weight is 62kg (136 lbs) and you run 8 miles at 10 minutes per mile pace. First, your required consumption is 68 ounces of water for your body weight and an additional 32 ounces for the 80-minute workout (an average of 8 ounces for every 20 minutes of aerobic activity). That is a total of 100 ounces for your daily intake or 3 litres which is equivalent to 12 glasses. Keep in mind that muscle contraction depends greatly on sufficient water intake. The first sign of dehydration is muscle cramping. Drinking often is essential, without water we have no life!

USDA Food Pyramid

The food pyramid developed by the USDA provides a good basis for food recommendations. "The Pyramid calls for eating a variety of foods to get the nutrients you need and focuses on fat because most Americans diets are too high in fat, especially saturated fat," according to the USDA.

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Group	**Servings**
Fats, oils & sweets	use sparingly
Milk, yogurt & cheese	2-3
Meat, poultry, fish, beans and nuts	2-3
Fruits	2-4
Vegetables	3-5
Bread, cereal, rice, grains	6-11

Frequency

Don't let more than four hours go by without eating something. After four hours of not eating, our metabolisms begin to decline. We want to maintain a high metabolism throughout our day.

Fad Diets

Lately, there has been much public attention to the so called "low carb diets." I do not recommend them, especially while participating in a fitness-training programme. Carbohydrates are an important source of energy and you will need at least 5 grams per kg body weight to have enough energy readily available to successfully complete your daily physical activities and exercise regimen.

So, take your performance and energy to the next level by focusing on your nutrition. Remember that it's not only about how many calories you consume each day, but also the proportions of the types of food you eat and how often you eat them. Getting the right mix will help optimise your performance.