NUTRITION GUIDE

NUTRITION TIPS AND GUIDANCE

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Nutrition Guide

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Macro nutrients

There are three major macronutrients that the human body needs in order to function properly: **carbohydrates, protein, and fats**.

In order to achieve large gains in muscle mass along with significant body fat decreases, many hormonal events need to occur in the body. The amount of success that that can be achieved in through training is determined by how much testosterone, growth hormone, and insulin are produced by the body and whether or not they are produced at the right times.

These events are affected to a large extent by the quality, timing, amount, and ratio of the macronutrients consumed on a daily basis. There are three major macronutrients that the human body needs in order to function properly: **carbohydrates, protein, and fats**.

Micro nutrients

For normal health to be maintained, a wide range of vitamins, minerals and trace elements must be present in adequate amounts in the body tissues, and the dietary intake must be sufficient to meet the requirement. Many **vitamins and minerals** play key roles in energy metabolism, and the adverse effect of deficiencies of these components is well recognised and easily demonstrated. Marginal deficiency states may have little effect on the sedentary individual, but small impairments of exercise capacity may have profound consequences for the serious athlete. Regular intense exercise training may also increase micronutrient requirements, either by increasing degradation rates or by increasing losses from the body.

Many micronutrients play key roles in energy metabolism and, during strenuous physical activity, the rate of energy turnover in skeletal muscle may be increased up to **20-100 times the resting rate**. Although an adequate vitamin and mineral status is essential for normal health, marginal deficiency states may only be apparent when the metabolic rate is high. Prolonged strenuous exercise performed on a regular basis may also result in increased losses from the body or in an increased rate of turnover, resulting in the need for an increased dietary intake. An increased food intake to meet energy requirements will increase dietary micronutrient intake, but any individual undertaking training may need to pay particular attention to their intake of **iron, calcium** and the **antioxidant vitamins**.

Carbohydrates

Carbohydrates (carbs) yield the quickest energy production in the body. However, choosing the best food sources can be a challenge. Anyone who undertakes regular exercise will need to consume more carbs than the average person to properly fuel and recover.
In addition, active individuals should look for foods that help promote overall health and well-being, to keep them feeling good enough to enjoy their sport/training. When it comes to comparing foods, it's important to look at the total nutrient composition.

Here is a list of minimally or unprocessed foods that you are able to find in the perimeter of your local supermarket:

Sweet Potatoes
The bright orange colour of these root vegetables is a visual cue that they are an abundant source of the high-powered antioxidant, **vitamin A**. They also are a great source of **potassium** to help soothe sore muscles and maintain the right amount of fluids in the body. One cup provides 27g of carbs, 4g of which are fiber.

Oats
This breakfast staple has been promoted as a "heart-healthy" food due to its high soluble fiber and low saturated fat content, both of which have been shown to **reduce LDL (bad) cholesterol** and total cholesterol levels.
Besides keeping your ticker kicking, the magnesium found in oats helps to maintain nerve and muscle function and is involved in over 300 metabolic reactions in the body. 1/2 cup of dry oats provides 27g of carbs.

Wild Rice
Going a little wild on your rice gives you an edge over the commonly hyped brown rice. Wild rice has the added bang for your calorie buck by providing **6g of protein** and double the amount of fiber (3g) for 35 less calories than brown rice per 1 cup serving.

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Fats

Fats provide the body with energy to drive activity. Where carbohydrates account for the majority of energy during short-duration or low-intensity exercise, fats make up the majority of energy during longer or more intense workouts. Fats should never fall below **15 percent of your daily caloric intake**. For endurance athletes, up to 75 percent of energy demand may be met by fat in your body.

In focusing on the levels of protein and carbohydrates in an athletic diet, it is easy to lose sight of the **importance of healthy fats**. Your body requires two classes of fatty acids to function properly: omega-3 and omega-6 fatty acids. Moderate to intense training requires both carbohydrates and fat for fuel. Hormones and other molecules produced from fat are important for maintaining the balance of the biochemical reactions that drive life

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Proteins

Whether running, sprinting, swimming long distances or lifting weights, athletes expend more energy than the average person and their bodies need additional nutrients to recover from intense physical activity. Protein plays an important role in an athlete's diet as it helps repair and strengthen muscle tissue. High protein diets are popular among athletes — especially those seeking a leaner, more defined physique.

Overall Diet
While protein is critical in building muscle, more is not necessarily better. Simply eating large amounts of lean protein will not equate with a toned body.
When determining protein requirements for athletes, it's important to look at the athlete's overall diet. Athletes who consume diets adequate in carbohydrate and fat end up using less protein for energy than those who consume a higher protein diet. This means that protein can go toward building and maintaining lean body mass. Athletes need to ensure that they are also meeting needs for carbs and fat, not just protein.

Recommendations
While athletes' protein needs are greater than that of non-athletes, they're not as high as commonly perceived. **It is recommended that 1.2 to 2.0 grams of protein per kilogram of body weight per day for athletes, depending on training.**
Protein intake should be spaced throughout the day and after workouts.

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Minerals

You eat lots of produce and lean protein, so you're probably all set with vitamins and minerals, right?
If you're hitting the gym on a regular basis, that may not be the case. **Certain nutrients are vital for your muscles to work efficiently**, and, moderate to vigorous exercise increases the loss of some minerals, mostly through sweat.

Calcium
Milk does a body good — the adverts didn't lie. Each additional cup of skimmed milk consumed per day can reduce a runners' incidence of developing a stress fracture by 62 percent. The calcium, along with vitamin D, potassium and protein in the dairy drink significantly increased participants' bone density — and a strong skeleton is key for any high-impact activity.
Get more from: Milk, yogurt, leafy greens, beans, fortified cereals

Iron
To help your muscles work efficiently, you need to pump some iron — literally! An hour of working out could **deplete 5.7 percent** of your level of this mineral, which **helps red blood cells** carry oxygen to muscles. Losing too much of your stores can result in iron-deficiency anemia, which causes fatigue and zaps your endurance during lengthy sessions.
Get more from: Beef, eggs, spinach, broccoli, fortified cereals

Magnesium
This mineral is a powerhouse for weekend warriors to pro endurance athletes alike. Magnesium is a component of more than 300 enzymes involved in energy metabolism, plus it plays a role in bone formation. Improved bone density is important for protect yourself from stress fractures during high-impact activities. You **lose magnesium through sweat**, so munch on some good sources of it before a hard weight-training session or long run.

Get more from: Leafy greens, almonds, halibut, quinoa

Potassium
There's a reason marathoners grab a banana after crossing the finish line: Its high potassium content helps reduce cramps and speed up recovery.
How?
The mineral works with sodium to help your muscles and nerves work properly. It's the primary electrolyte in intracellular fluid, meaning it plays a big role in balancing water content throughout the body. Consider it **essential fuel** following a tough workout or a strenuous outing lasting more than an hour.
Get more from: Sweet potatoes, bananas, avocados, tuna

Sodium
It seems like "sodium" is a swear word in the health-o-sphere — and with its prominence in processed and take away food, it's true many people need to cut back.
But if you're into endurance, by sweating out sodium and hydrating with water alone, you could experience heat cramps or hyponatremia, a low concentration of sodium in the blood that can be fatal in extreme cases. Salty sweaters (who notice a white film on their skin after a workout), heavy sweaters (who produce a high volume of sweat during exercise), people working out in hot, humid temperatures, and endurance athletes need to pay close attention to their sodium intake.
Get more form: Gatorade, pretzels, salted nuts

Zinc
Loading up on carbs while limiting protein and fat causes deficient levels of zinc in up to 90 percent of athletes. This can zap your energy and endurance. Make sure you have enough of the mineral for a challenging session by ordering a side of meatballs during your pre-race pasta dinner.
Get more from: Red meat, chickpeas, pumpkin seeds, quinoa

Going overboard with some nutrients can be as detrimental as skimping on them, so talk with your doctor before changing your diet or reaching for any supplements. Figure out the right balance for you — then go out and set a new personal best.

Vitamins

Vitamin C
Up to half of people who work out in cold conditions suffer from some degree of exercise-induced asthma. Vitamin C can reduce coughing, wheezing and shortness of breathe during and after exercise. It also significantly decreases the likelihood of active people coming down with the common cold.
Get more from: Oranges, strawberries, bell peppers, kale

Vitamin D
Soaking up some sun doesn't just boost your mood — it can pump up your power, too. In a new study from Newcastle University, patients reported less fatigue after receiving a dose of vitamin D. Without enough of this nutrient, the mitochondria in muscle fibers can't adequately regenerate energy after your muscles contract, making you feel tired more quickly.
Get more from: Milk, salmon, trout, egg yolks

Vitamin E
If you're a gym devotee, you can slash the chance of becoming sick by consuming some of this oily antioxidant.
Get more from: Sunflower seeds, almonds, peanut butter

Vitamin B
Lacking the energy to push out those last few reps? Chances are you're low on this group of micronutrients, which includes vitamins B6 and B12, thiamin, riboflavin and folate. The body uses these to convert protein and sugar into energy and to produce red blood cells. Athletes with low levels performed worse during high-intensity exercise.
Get more from: Tuna, black beans, lentils, peanuts

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Fiber

Fibre is important for everyone. Not only does it promote general wellness and digestive health and regularity, but, it also lowers the risk of developing many diseases or conditions, such as heart attacks, diabetes, high blood pressure, stroke and certain cancers.

Water

A reduction of just 2% of fluid can result in degraded performance by as much as 10-20%. This is a significant amount. Consider for a moment the amount of effort that goes into training to improve by just 5%. All that, and more, can be lost by inadequate hydration.

The usual guidelines given are that a person should drink approximately two liters of water per day. Exercise and heat increase the demand for fluids. As the body works harder, more heat is created, which needs to be lost. Approximately 75% of the energy used in exercise produces heat, with the remaining 25% going to useful work. The heat loss occurs when we perspire and also when we exhale. Although it is common to think of dehydration in the context of heat and exercise, if the environment is arid then significant fluid loss can also occur through the skin and exhaled breath.

Supplements

When scientists study these products, mixed reviews are pretty common. Also, most research focuses on highly trained or pro athletes, so your results might be different. But if you're healthy and have no problems with your heart, kidneys, or liver, the most popular sports supplements are safe and inexpensive.
It's best to talk with your doctor before you take any product, even if it's natural, in case you have any conditions or take medications that it could affect.

Follow the link to The Protein Works to view supplements

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