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Eating Correctly

When highly motivated and well-trained athletes meet in competition, the difference between victory and defeat is often very small. Paying attention to the details when preparing can make that vital difference. Your diet has a direct impact on performance, and the food you eat will affect how well you play. Every athlete needs to be aware of their nutritional intake and how they can select an eating strategy to meet their sporting goals.

The Benefits of Eating Correctly:

- Quicker recovery in between training sessions
- Maintaining your ideal body weight
- Reduces chances of illness
- Self-assurance in being primed for match day
- Regularity in great performances

Why Athletes Do Not Eat Correctly:

- Limited knowledge of foods and their nutritional values
- Inability to acquire the appropriate foods
- Inadequate food and drink options
- Extensive travel
- Demanding lifestyles

Understanding Energy Demands:

Elite athletes tend to exercise 6 or 7 days a week and compete in match play once a week. This type of training schedule is extremely stressful and draining on an athlete’s body, so maintaining the body’s energy levels through nutrition is vital to optimal performance.

Energy Demands During Matches:

Carbohydrates are stored in muscles and in the liver as glycogen. Glycogen is the subordinate long term storage of energy otherwise known as fat tissue. This is the most significant fuel for an athlete’s energy production. If glycogen is depleted in specific muscles, those muscle fibres will be unable to contract correctly. This results in actions such as running and the use of other skills to become increasingly difficult to execute and will lead to fatigue.
Body Types
There are three general body types: Ectomorph, Mesomorph and Endomorph.

Ectomorph:
People with an Ectomorph body type have thin limbs and a small bone structure; they are often skinny and struggle to gain weight. As an Ectomorph, it is important to consume a lot of carbohydrates. In fact, Ectomorphs should include carbohydrates in every meal. During workouts, Ectomorphs should consume an energy drink in combination with their water intake. An Ectomorph athlete’s metabolism works extremely fast, and because of this, they should ideally eat every 2 to 4 hours. Below is a meal plan for an Ectomorph athlete who needs to consume 3000 calories a day:

Breakfast
- 2 whole eggs
- 3 egg whites
- 57 grams extra lean ground beef
- 2 cups sliced potato
- 1 large grapefruit
- 1 1/4 cup grapes

Snack 1
- 1 scoop whey protein powder
- 236 ml skim milk
- 1/3 cup oatmeal (dry measurement)
- 10 large strawberries
- 8 almonds

Lunch
- 113 grams chicken breast
- 1 1/4 large pita
- 1 3/4 cup sliced apple
- Unlimited vegetables

Snack 2
- 1 scoop whey protein powder
- 236 ml skim milk
- 1 large banana
- 2 tsp almond butter

Dinner
- 120 grams salmon
- 1 2/3 cup rice (cooked)
- 1 tsp flaxseed oil
• Unlimited vegetables

Snack 3
• 1 1/2 scoops whey protein powder
• 295 ml skim milk
• 1/5 cup oatmeal (dry measurement)
• 2 tsp extra virgin olive oil

Mesomorphs:
Mesomorphs have medium sized bones and often an athletic build, if they eat correctly and are active they will have a lot of lean body mass. Mesomorphs tend to have a lot of testosterone and are able to maintain their body fat and gain muscle fairly quickly. Mesomorphs will benefit from having a mixed and well-balanced nutritional plan. Please see below for a Mesomorph diet plan:

Breakfast
• Bowl of Oats
• Lean Bacon
• 1 or 2 Whole eggs

Snack 1
• Rice Cakes with Peanut Butter and no added-sugar or jam
• 1 Glass of skim milk

Lunch
• Whole wheat bread/Bagel/Wrap
• Chicken/Turkey/Cottage Cheese
• Vegetables
• Side serving of Olives or unsalted Nuts

Snack 2
• Greek yoghurt mixed with berries, banana and pumpkin seeds

Dinner
• Lean Steak
• Sweet Potato
• Large portion of vegetables drizzled in olive oil
**Endomorphs:**

Endomorphs have larger bone structures and a greater amount of body weight. These people tend to be less active and excess calories are often stored as fat. Endomorphs should include more fats and protein in their diets instead of carbohydrates. Below is a nutritional plan for the endomorph body type:

**Breakfast:**
- 2 Egg Omelette
- ¼ cup Chopped Peppers
- ¼ cup Mushrooms
- ¼ cup Mozzarella Cheese
- Green side Salad

**Snack 1:**
- ¼ cup Almonds
- ¼ cup Raisins

**Lunch:**
- 1 cup Bean Soup
- Salad made with 2 cups spinach, 1 sliced hard-boiled egg, 1/4 cup sliced mushrooms, 1 chopped slice of turkey, 2 tablespoons vinaigrette dressing
- 1 slice whole-wheat bread with one half teaspoon of pure butter

**Snack 2:**
- Greek Yoghurt
- ¼ cup Berries

**Dinner:**
- 120 grams of grilled boneless, skinless chicken breast, topped with ¼ cup diced tomatoes and ½ cup string beans
- 1 cup broccoli
- 1 cup salad spinach with 1 tablespoon low-fat dressing and 2 tablespoons shredded low-fat cheese
- 1 slice of whole grain bread
**Body Fat**

Fat is the body’s major energy store and is used when we are not able to get energy directly from our food. An athlete will perform best when his or her body fat is in an ideal range. Body fat will differ for athletes in various disciplines, but if an athlete’s body fat is too low they will be a lot slower due to inefficient energy usage. If their body fat is too high they will also be slower due to the excess energy expenditure used to carry the extra weight.

**Managing Energy Consumption and Energy Stability:**

Elite athletes should follow a nutritional plan to achieve their goals. It is important to speak with a nutritionist to accurately determine what will work best with your body and athletic needs. If an athlete wishes to increase muscle mass or decrease body fat percentage, their diet needs to be altered in order for them to achieve their goal. A regular review of your fitness goals is important to see if changes in your eating plan need to be made.

To judge the success of an eating plan based on body weight alone is misleading, as you may be losing muscle mass in combination with body fat. To accurately track your fat percentages, a skin fold measurement gives you the best indication of an increase or decrease in fat percentage.

**Restricting Energy Consumption:**

Certain athletes will try to reduce their nutritional intake in the hope that it will decrease their body fat stores. This approach to weight loss can be very damaging to an athlete's heart, muscles and bones. An athlete needs to consume enough nutrients to perform at a necessary level. If insufficient nutrients are consumed, your body will automatically begin to use the nutrients in your muscles and bones to compensate. Not only will eating less impact on your performance in the short term, it will increase your health risks in the long term too. Sudden incidents of fatigue may be an indicator that there is a problem with your nutritional intake.
Supplement Usage
Athletes that use weight loss and muscle mass supplements are running a very high risk of being tested positive for banned substances. Many of the products on the market have not been tested and approved by the anti-doping sports bodies. A product that has been deemed safe to consume does not mean it has been cleared for use in sanctioned athletic competitions, as many of the ingredients are not listed on the bottle. Athletes should speak with their doctors and nutritionists for assistance in developing an eating plan which will optimise nutrient intake and sport performance.

Carbohydrates
Carbohydrates are a key energy source for athletes. The body can only store enough carbohydrates for one day of hard training, making it necessary to consume carbohydrates daily. Consuming sufficient carbohydrates helps to sustain energy requirements during games and training sessions, as well as replenishing glycogen in the muscles.

Carbohydrate Consumption Goals:
- Day-to-day: 5-7 grams per kilogram of body weight daily.
- Match preparation or high intensity sessions: 7-10 grams per kilogram of body weight daily
- Post Training/Game: 1 gram per kilogram of body weight every hour (For immediate recovery)

Recovery of Glycogen Stores:
If you have intense training sessions with less than 8 hours rest between sessions, it is vital that you consume carbohydrates directly after your session has finished to help restore the depleted glycogen in your muscles in preparation for the next session.

During a resting or recovery period, with 24 hours or more between exercises, it is not as important to eat carbohydrates directly after training, but they should be consumed evenly throughout the 24 hour recovery period.

The best sources of carbohydrates for intense training are listed high on the glycaemic index, as they are easily converted into glycogen by the body. The high GI foods listed below should be included in the daily eating plan of any elite athlete:
High Glycaemic Index Carbohydrates:
- Whole grain breakfast cereals
- Pasta
- White or brown rice
- Brown breads
- Sports energy drinks
- Honey
- Potatoes
- Fruits and fruit juices

Protein Needs
When we eat proteins, the main components used by our bodies are the amino acids. Amino acids are very important in the development of new and the repair of damaged body tissue. They are also the foundation for hormone and enzyme production which aid in metabolic processes.

When it comes to the amount of protein an athlete should consume, consult your nutritionist. However, the dietary plans provided in the pack include more than enough protein to sustain you during a season. Amino acid rich protein shakes usually do not need to be taken, the only supplement athletes should be taking is a comprehensive Multivitamin to compensate for any deficiencies. If you feel this is not enough, you should consult your doctor for advice.

Research indicates that it is not the amount of protein that is important, but rather when you consume it in relation to your workout. 20 - 25g of high-quality lean protein should be eaten directly after a workout. The quicker your body receives the protein, the faster protein synthesis can repair damaged muscle tissue and aid in recovery.

High Protein Foods:
- Eggs
- Cow’s Milk
- Cheese
- Yogurt
- Meat
- Fish
- Chicken
- Nuts/seeds
- Lentils/legumes

Vitamins and Minerals
Intense training and competition places the human body under huge amounts of strain. If we are not consuming the sufficient amount of vitamins and nutrients, our performance and health can be placed at risk. We recommend taking a good multivitamin which should contain the following: Iron,
copper, magnesium, sodium, manganese, selenium, zinc, vitamins A, B6, B12, C and E. Speak with your doctor who will recommend the best supplement to meet your training needs.

Calcium:

Athletes who are still growing need to consume about three times the recommended dose of calcium per day, compared to non-athletic children. If the athlete is going through a growth spurt, calcium is extremely important for bone development, density and strength.

Antioxidants:

The human body produces antioxidants naturally, which helps to care for the body’s tissue after completing strenuous exercises. It is important to note that there is very little evidence showing how antioxidants benefit athletes. However, there is evidence that indicates taking too many antioxidants is harmful. If you are thinking about taking antioxidant supplements, remember to consult your doctor.

Iron:

Iron Deficiency is a common ailment which athletes suffer from. It can result in extreme and unusual levels of fatigue. If you are struggling with unexplainable fatigue, ask your doctor to test your iron levels.

Preparing for Match Day

When athletes prepare for matches or competitions, they all have different routines. What all athletes should have in common is their intake of carbohydrates. Carbohydrates should be consumed leading up to, during and after a match is completed. If they do not consume the correct amount of carbohydrates, they will not be able to compete to the best of their ability, as their glycogen levels will be too low.

What is Carbo-loading:

Carbo-loading takes place in the days leading up to a competition. Two days prior to competition when training intensity has decreased, athletes will consume between 8-10g of carbohydrates per kg of the athlete’s body weight. Doing this helps to increase glycogen storage and optimising energy efficiency during competition.

Food Intake Before a Game:

Before competitions, your carbohydrate intake should be between 1 and 4g per kilogram of your body weight, 3 to 6 hours prior to competing. By not consuming enough carbohydrates, your body will quickly deplete its glycogen stores and begin to rely on glucose in your blood to provide the energy you need to perform, which will result in you becoming fatigued rapidly.
**Hydration**

Hydration is a key component to sports performance. It is no surprise that athletes sweat heavily during exercise. Depending on the weather conditions and duration of the training, the amount of sweat will vary. In very hot conditions, it is possible to sweat up to 3 litres per hour. Focussing on fluid intake during warm ups, half time or at the end of a quarter is imperative to prevent dehydration.

**Energy Supplement Drinks:**

Consuming energy drinks in combination with water during a match is a good idea. However, you need to ensure these drinks contain electrolytes, sodium and a carbohydrate content between 4-8%. These types of drinks will help with hydration, energy replenishment and prevent muscle cramps.

**Alcohol**

**Alcohol in Sport:**

Alcohol has always been closely related to sport: fans often consume alcohol as they passionately watch their teams. As a result, alcoholic brands have now become the major sponsors of large sports events and teams. For example, Budweiser is now an official sponsor of the FIFA World Cup.

**Alcohol Consumption:**

The problem with athletes drinking alcohol is that they tend to binge drink. Binge drinking occurs when a large amount of alcohol is consumed in a very short period of time. If this large consumption of alcohol occurs during the season, it has a direct effect on fitness, recovery and health of the athlete, and sometimes can impact their reputation. Repeated abuse of alcohol can also damage the central nervous system, slowing down response and reflex rates, affecting overall performance and potentially derailing a promising career.
Environmental Challenges

Altitude:

Athletes who train and compete at low to moderate levels of altitude will find it challenging when competing at high levels. Altitude impacts endurance, and in some severe cases, when exposed to very high levels, an athlete can experience loss of appetite, nausea and headaches. To combat these negative effects, it is important to keep hydrated and consume anti-oxidant rich foods. If you train at altitude for long periods of time, your body will begin to produce more red blood cells, and measures should be taken to increase your iron intake to manage these changes.

Heat and Humidity:

Exercise naturally increases the body’s core temperature, and our bodies automatically regulate this through sweat evaporation. When playing in humid conditions, the body’s regulation process is not effective, as sweat does not have the chance to evaporate. If the body’s core temperature increases by more than 3 degrees Celsius, the likelihood of having heat stroke increases dramatically. To ensure this does not happen, it is important to stay hydrated and consume energy drink supplements that contain electrolytes and salts when competing in very humid conditions.

College Athletes

USA student-athletes have a lot more day-to-day stress to deal with than non-athletic students. Athletes have their studies to complete, sports training to attend and some have part-time jobs to earn extra money. With these commitments, proper nutrition is often sacrificed for convenient, unhealthy foods. With an intense sport and class schedule, it is imperative to plan meals ahead of time to ensure mental and physical alertness throughout the day.

We hope the information in this eBook will help you make the right dietary decisions on your way to college and professional sporting success. Remember to consult your doctor before implementing dietary changes.
References


