



Nutritional Education and Counseling

Nutrition

Nutrition provides all of our energy. If you want to participate in activities that require astronomical amounts of energy you need to fuel it correctly. In order to perform at your best you need to fuel it with your best.

Correct Nutrition

Nutrition is individualized; it provides all of our energy for how we function on a day to day even an hour-to-hour basis. In order to perform at your best you need to fuel it with your best. There are three macronutrients that account for almost all calories. These nutrients are carbohydrates (CHO), protein (PRO), and fat (FAT). From here, nutrition becomes a science of how you want your body to feel and work

CARBOHYDRATE RECOMMENDATIONS

Carbohydrates are the primary fuel source for the body during moderate and high intensity activity. Carbs are not stored in excess in the body so they need to be consumed throughout the day. Carbohydrates are the first nutrient broken down by the body followed by fat and finally protein. Each gram of carbohydrate contains 4 calories.

ACTIVITY TYPE	RECOMMENDED INTAKE (GRAMS/POUND)
ENDURANCE-MODERATE TRAINING	2.7-4.6
ENDURANCE-HEAVY TRAINING	3.6-5.5
POWER SPORT	2.7-5.5
STRENGTH SPORT	1.8-3.2
TEAM SPORT	2.3-3.2

Timing and amount is key to performance. 1-4 hours before exercise eat 1-4 grams of carbohydrates per kg of body weight (to get kg, take your weight in pounds and divide by 2.2). In the hour before activity, carb intake is based on the individual and how you know your body works. Be aware of the types of carbs you are taking in as well. Before exercise you should choose foods with minimal fiber, fat, and protein. Consuming foods with high amounts of these nutrients will slow absorption and can cause intestinal distress.

DURATION OF EXERCISE	CHO AMOUNT	CHO TYPE
<30 MINUTES	Not Needed	--
30-75 MINUTES	Small amounts	Most forms of CHO
1-2 HOURS	25-30 grams per hour	Most forms of CHO
2-3 HOURS	Up to 60 grams per hour	Glucose, sucrose, maltodextrin
>2.5 Hours	Up to 90 grams per hour	Ratio of 2:1 glucose:fructose

After exercise, carbohydrates should be replenished within an hour post exercise. If training occurs again within 8 hours 1-1.2 grams of CHO are needed per kg of body weight. If training occurs more than 8 hours after exercise focus of replenishing what your body wants and needs to feel satiated.

FAT RECOMMENDATIONS

Fat yields 9 calories per gram. While there are no real recommendations provided, fat is essential in our diets. Fat is essential for life as it provides cushion for our body organs and allows us to perform at high levels as fat is used when carbohydrate stores are depleted. Fat has an overall negative thought process, as obesity is an epidemic that can be assisted with the correct health care professional. Every individual has a different body type, thus requiring different nutritional needs. There is a recommended percentage of body fat that is essential for everybody. If you have any questions, please let your Athletic Trainer know so we can help you.

BMI	CLASSIFICATION
<18.5	UNDERWEIGHT
18.5-24.9	NORMAL
25-29.9	OVERWEIGHT
>30	OBESITY

While there are many negative connotations with being overweight, there are also negative connotations with being underweight. Your body has a great system to regulate itself called homeostasis. If your diet is thought out and everything is eaten in moderation your body will manage itself.

PROTEIN RECOMMENDATIONS

Protein is a nutrient composed of amino acids, the 'building blocks' of life. Protein is very important in diet as they build new structures in the body. Amino acids build muscle, enzymes, hormones, and transport proteins in the blood.

There are two types of amino acids that we need. The acids made by the body (non-essential) and the acids not made by the body (essential). Essential amino acids are ones that we need to consume in our diet. When we consume essential amino acids they are referred as complete or incomplete. Complete amino acids are only found in dairy, meat, fish, poultry, and soy.

Normal protein intake for an adult is 0.8 g/kg. Athletes need a slight amount more. Ideal protein intake for athletes depends of the individual and the type of activity.

ACTIVITY	RECOMMENDED INTAKE (G/KG)
TEAM SPORT	1.2-1.7
ENDURANCE	1.2-1.4
STRENGTH	1.6-1.7
POWER	1.5-1.7

Depending on the goals of the athlete, protein intake before and during exercise can vary. If the goal is to create lean muscle a small amount of protein can be eaten but the actual amount is undetermined.

Upon completing exercise it is important for recovery to consume some sort of meal as soon as their stomach can handle food. If food consumption after exercise seems repulsive, look for liquid alternatives that have calories and can be used for recovery.

More so, eating more protein is not always better for you. Protein is the last nutrient that gets broken down during aerobic exercise. Each gram of protein contains 4 calories so eating in excess of 20 grams at one time could lead to more protein being stored and not used. To gain muscle it is better to practice eating 20 grams of protein every three hours throughout the day.

A recovery meal should contain complete proteins that are quickly digested and absorbed. Whey and Soy are two types of food that digest quickly. Casein, a milk protein is also digested quickly but whey and soy are a little quicker. Post exercise it may be more beneficial to consume a combination of whey and casein as opposed to soy however consuming soy throughout the day is an adequate choice.

Supplements

The use of supplements is very prevalent with athletes and more often than not they are misused. In fact, OSAA strongly opposes the use of supplements. The NFHS, NCAA, and professional leagues ban many ingredients in these supplements. General rule of thumb is...if you can't pronounce it don't take it. If you are taking supplements please contact your Athletic Trainer to make sure that you are not taking illegal substances that could lead to disqualification. Remember, supplements are not recommended; you can achieve your goals with correct nutrition and hard work.

Hydrating

Hydration is another vital component of successful exercise. Overall, most people do not consume enough water or other hydrating drinks. Liquids that are beneficial to hydration are drinks that do not contain caffeine or carbonation. The most hydrating drinks are water based with minimal sugar and carbohydrates. Below are recommendations for the amount of these water-based drinks for optimal performance.

HYDRATION RECOMMENDATIONS

ABOUT 4 BEFORE EXERCISE	5-7mL/kg (1kg=2.2lb) ex: 60kg=132lb ~3.6L (121oz) of hydrating fluid
About 2 BEFORE EXERCISE	3-5mL/kg (1kg=2.2lb) ex: 60kg=132lb ~2.4L (81oz) of hydrating fluid
DURING EXERCISE	Fluid with some sodium as needed
AFTER EXERCISE	16-20oz. of fluid with electrolytes per pound of weight lost

Counseling Services

Providence Sports Medicine is a team that provides many services. One of the services that we provide is psychological counseling. Contact your Athletic Trainer for more information.

If you have any questions, comments, or concerns about nutrition, hydration, or our counseling services please contact your Athletic Trainer. They can be reached in person or by phone and email.