PREMIUM PERFORMANCE TRAINING INC.

Health & Fitness Newsletter

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PREFACE

This is a bi-monthly publication of Premium Performance Training Inc. aimed at providing general information regarding current health and fitness trends.

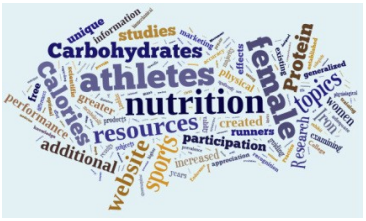
Quote to Remember:

"The best preparation for tomorrow is doing your best today"

- H. Jackson Brown, Jr.

INSIDE THIS ISSUE:

Nutrition Tactics For Endurance Athletes



For endurance athletes, optimizing carbohydrate storage before competition, sustaining carbohydrate delivery during competition, and maintaining an optimal hydration state before and during competition are critical factors for achieving optimal performance. Under normal circumstances endurance athletes would be those partaking in events such as road cycling, long distance swimming, marathons, triathlons or any shorter events (10K runs) which require a high level of endurance and places a relatively low premium on anaerobic power.

Carbohydrate Ingestion & Glycogen Stores

Carbohydrates are athletes' largest and most efficient source of fuel. Unlike our other fuel source (fats), our bodies have a limited storage capacity for glycogen stores and, as a result, these stores need to be consistently replenished to ensure optimal performance. Despite there being general nutritional recommendations for endurance athletes every person is different and the nutritional requirements for each type of event will vary depending on the intensity of the exercise - higher intensity exercises require proportionately more carbs, while lower intensity exercises require proportionately more fats. However, regardless of exercise intensity and duration it is the carb level that ultimately determines if the athlete will 'hit the wall', as when the glycogen stores are depleted, the athlete's energy level and overall performance will begin to decrease.

Continues on Page 4

HIIT Lower Body Stairs Training

Want a healthier you? Take the stairs. Below is a Beginner and an Advanced, circuit style, HIIT Stairs Workout. These workouts will help tone, sculpt and target your entire lower body while including a solid cardio element.

Instructions:

- Warm up with 2 minutes of stair walks/runs (beginner) or stair runs (advanced) before beginning the circuit.
- Complete 3 sets (beginner) or 4 sets (advanced) of each circuit
- Rest approximately 3 minutes after each circuit
- Remember to cool down and stretch after your final circuit
- 1 Stair Repetition is a full sequence up the flight of stairs of no less than 10 steps. In all cases persons should walk down the stairs.

Beginner Workout

Exercise	Stair Repetitions
Stair Walk (missing 1 step)	3
Stair Walk/Run	1
Stair Squats	2
Stair Walk/Run	1
Double Leg Stair Hops	3
Stair Walk/Run	1
Sideways Stair Squats	2 (each side)
Stair Walk/Run	1

Advanced Workout

Exercise	Stair Repetitions
Side Stair Squats (missing 1 step)	2 (each side)
Stair Runs	2
Single Leg Stair Hops	2 (each leg)
Sideways Stair Runs	1 (each side)
Stair Squat Jumps (missing 1 step)	3
Stair Runs	2
Sideways Single Leg Stair Hops	1 (each side and each leg
Sideways Stair Runs	1 (each side)

Exercise Descriptions:

- Stair Squats - Walk up the flight of stairs performing one squat on every step
- Sideways Stair Squats - Facing the side so that your right side of your body is closet to the stairs. Assume an isometric squat position, leading with your right foot step onto the next step, and then complete the squat by standing fully upright
- Sideways Stair Runs - Facing the side so that your right side of the body is closest to the stairs. Leading with your right foot, run up the stairs sideways
- Stair Squat Jumps (missing 1 step) - Squat and Jump up the stairs missing 1 step with each jump. Bend your knees as you land while returning to the squat position
- Single Leg Stair Hops - Hop up the stairs on one foot, bending your knee slightly as you land on the ball of your foot, and immediately push back off to hop to the next step

Ask Yourself Answers

1. **True**
2. **False - On average, right-handed people live nine years longer than left-handed people**
3. **True - The average weight of the human brain is approximately 47.6 ounces, while the average weight of the human heart is approximately 12 ounces**
4. **False - Men have approximately 5.5 liters of blood compared to 3.5 liters for women**
5. **True - Barbados sent 18 representatives to the 2000 Summer Olympic Games in Sydney**

Research the Facts

Failure Training Delays Recovery

In a research study in Seville, Spain test subjects performed either 6 sets of 12 repetitions at their one-repetition maximum (1RM; failure) or 3 sets of 6 repetitions at 70% of their one-rep maximum on the bench press and squat. Forty-eight hours after that training session, another training session was conducted and the one-rep maximum (failure) group showed performance decreases in the vertical jump and repetition velocity tested. They also showed elevations in cortisol, prolactin creatine kinase and heart rate variability, all of which suggested incomplete recovery. This training to failure during weight training results in markedly reduced recovery time, decreased performance and altered blood chemistry, compared to a less strenuous weight-training program.

(Clinical Physiology and Functional Imaging, published online March 11, 2016)

Experts Rate DASH Diet The Best

DASH, is an acronym for Dietary Approaches to Stop Hypertension, and emphasizes fruits, vegetables, whole grains, and reduced sodium. Nutritional and obesity researchers rated 38 diets based on criteria such as weight loss, rapid weight loss, easiest to follow, healthy eating and diets best for people with heart disease and diabetes. In the results the experts rated the DASH diet the best in their annual diet ranking issued by the U.S. News & World Report. It was also cited as the best diet representative of healthy eating .

(American Journal Clinical Nutrition 103: 341 - 347, 2016)

What Causes Muscle Cramps?

Until recently, scientists routinely believed that dehydration and electrolyte depletion were the main/sole causes of muscle cramps, and therefore athletes with cramps were treated with fluids, electrolytes and general stretching. An obvious problem with this hypothesis was that only active muscles tended to cramp during or after exercise, even though dehydration and electrolyte depletion occurred throughout the body. An interesting literature review by Kevin Miller from Central Michigan University concluded that muscle cramps most likely have many causes. Over activity of neural structures such as muscle spindles and Golgi tendon organs probably play central roles. Contributing factors such as dehydration, localized tissue electrolyte disturbances, exercise-generated metabolites and metabolic heat production could also be important. Individual athletes should keep a 'cramp journal' to identify the circumstances of their problem and help develop treatment and prevention strategies.

(ACSM's Health & Fitness Journal, 20 (2): 37 - 39, 2016)

Lost Muscle During Weight Loss Speeds Weight Gain

Only about 5% of people who lose a significant amount of weight keep it off for more than one year. The National Weight Control Registry keeps track of people who successfully lost at least 30 pounds and maintained the loss for one year or longer. A shared characteristic among these people is that they burned an extra 3,000 calories a week, which means they exercised about one hour daily. They also restricted their calories moderately and not drastically. Scientists from Maastricht University in the Netherlands, led by Roel Vin, found that people who lost the most fat-free mass during weight loss gained back the weight the fastest.

(Obesity, 24: 321 - 327, 2016)

Nutrition Tactics For Endurance Athletes

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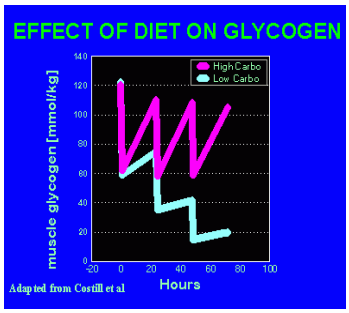
Nutritional Concerns For Endurance Athletes



In order to perform optimally, we need to be sure we have adequate stores of glycogen available for training, recovery from training as well as competition races. Endurance athletes should aim for a carbohydrate intake of 5 - 7g per kg of body weight per day. This substantial amount of calories from carbs is important since their endurance based training routine would demand the regular consumption of carbohydrates to maintain or replace the constantly depleting glycogen stores. The timing of carbohydrate ingestion is also important and may influence glycogen stores and re-synthesis. It is recommended that endurance athletes consume carbohydrates immediately after training or competition to encourage the restoration of glycogen stores as quickly as possible. This is important as delays in eating carbohydrates after such activities which deplete them significantly will result in poor glycogen replacement and possible negative effects on subsequent days of training due to reduced endurance. Post-exercise, it is generally recommended to consume 1 - 1.2g per kg of body weight every hour for the first 4 hours, before resuming daily fuel needs. It is important to realize that there is no substitute for consuming sufficient energy and carbohydrates for endurance events and to this respect supplements and ergogenic acids have been shown to be ineffective without proper nutrition.

Carbohydrate Loading

During intense, continuous endurance exercise, your muscles will become depleted of glycogen after approximately 90 minutes. Therefore for endurance events which last longer than 90 minutes carbohydrate loading is a general recommended strategy for athletes. Carbohydrate loading is the process of increasing your carbohydrate intake, as a means of storing extra glycogen that your muscles can tap into once your normal stores are used up. There are multiple ways in which athletes can carbohydrate load for a race. The most common approach to carb-loading is to simply increase the proportion of carbs in your diet three days before race day. During the carb-loading period you would aim to up your carbohydrate intake to 8 - 10g per kg of body weight. Many endurance athletes prefer foods with low to moderate glycemic indices for carbohydrate loading due to their minimal effect on glucose levels. Examples of common foods used to carbohydrate load are rice, pasta, pancakes, bread, toast and muffins.

Continues on Page 5

ASK YOURSELF ..... True or False ?

Score: _____ ***out of 5***

1. Drinking one can of soft drink (soda) a day increases your chances of getting type 2 diabetes by 22%	**TRUE**	**FALSE**
2. On average, left-handed people live longer than right-handed people	**TRUE**	**FALSE**
3. The human brain weighs approximately 4 times more than the human heart	**TRUE**	**FALSE**
4. On average women have a greater volume of blood than men	**TRUE**	**FALSE**
5. The most representatives Barbados has ever sent to a Summer Olympics Games is 18	**TRUE**	**FALSE**

Answers can be found on the bottom of page 2

Nutrition Tactics For Endurance Athletes

….Continued from Page 4

Nutritional Concerns For Female Endurance Athletes

Female endurance athletes must consume sufficient energy and nutrients to avoid amenorrhea (cessation of regular menstrual periods). Amenorrhea occurs for many reasons including high physical stress, high psychological stress, inadequate energy intake, poor iron status, high cortisol levels, and low body fat levels. Although some of these factors are clearly out of a woman's control, food intake is not one of them. Amenorrhea is also strongly associated with a loss of bone density and an increase in stress factures and risk of osteoporosis. Female endurance athletes should take the following steps to reduce the risk of osteoporosis:

- Consume calcium (1,500 milligrams per day) from food or a combination of food and supplements
- Avoid overconsumption of protein - excess protein is associated with higher urinary calcium losses
- Control the production of stress hormones (particularly cortisol) by maintaining hydration and blood sugar level during exercise
- Avoid overtraining, which is associated with amenorrhea

Endurance Event - Distance Running

Distance running is commonly thought of as distances of 10,000 meters (6.2 miles) or longer. To go these distances, runners place a premium on relying primarily on aerobic metabolic pathways during the majority of the run. Runners who are capable of doing this rely mainly on fat for the majority of fuel. The higher reliance on fat enables long-distance runners to run very long distances. It also enables them to preserve carbohydrates for moments in the race when they require fast acceleration. Distance runners must therefore develop strategies for delivering carbohydrates during the run. A failure to do so will result in either low blood sugar or low muscle glycogen, both of which would impair endurance and lead to premature muscle fatigue. In distance running events fluids are crucial and should be on a fixed schedule (every 10 - 15 mins) to avoid under-hydration and thirst. Perhaps no single factor is more important to ensuring a long distance runner's success than maintaining an optimal hydration state. A great deal body heat is generated over the course of an endurance run, and this heat is liberated through sweat evaporation. Acute heat exposure is detrimental to muscular endurance and studies suggest that a 6 - 7% carbohydrate solution with electrolytes is most effective in maintaining exercise endurance and combating acute heat exposure. Therefore, long-distance runners should develop the habit of frequent fluid consumption to maintain water status, whether they are thirsty or not. A fluid intake of ½ - 1 litre per hour is sufficient to prevent significant dehydration in most athletes in mild environmental conditions, but a greater intake of fluids is needed for athletes running at higher intensities or in more severe environmental conditions in order to avoid heat stress. There are various sports beverages and carbohydrate gels which an be used to help maintain fluid and carbohydrate levels during a race and athletes should experiment to see which beverage or gel works best for them.

Healthy & Great Recipe

Eating healthier does not have to mean eating boring. In our 'Healthy & Great' recipe section we will introduce you to some incredible recipes which are lower in sugar, fat and calories compared to their 'traditional' counterparts but are still full of flavour.

Amazing Peanut Butter Cookies

MAKES 24 COOKIES

- 1 cup peanut butter
- ¾ cup Splenda granulated sweetener
- ¼ cup packed dark brown sugar
- ½ teaspoon baking soda
- 1 teaspoon vanilla extract
- 1 large egg

Method

1. Preheat the oven to 350°F.

2. Combine the peanut butter, sweetener, brown sugar, baking soda, and vanilla in a medium bowl and stir well until mixed. Add the egg and stir until dough is formed.

3. Shape the dough, by level tablespoons, into 1-inch balls. Place onto an ungreased baking sheet and flatten balls with a fork, forming a crisscross pattern on top of each cookie.

4. Bake for 9 to 11 minutes, or until cookies are golden brown on the bottom but still slightly soft in the centre. Remove from the oven and let cool on the baking sheet for 5 minutes. Remove to wire racks to finish cooling.

DARE to COMPARE .....
One peanut butter cookie at Subway contains 220 calories, including 26 grams of carbohydrate, 16 grams of sugar, and 12 grams of fat.....while Starbuck's version packs 400 calories, 19 grams of fa, 54 grams of carbohydrate, and 30 grams of added sugar, in each cookie.

NUTRITIONAL INFORMATION PER SERVING (approx. 1 cup)
Calories: 80 / Carbohydrates: 6g (Sugars: 4g) / Total Fat: 5g (Saturated Fat: 1g) / Protein: 4g / Fiber 1g / Cholesterol: 10mg / Sodium: 120mg

Recipe obtained from "Eat What You Love" - By Marlene Koch
Contains more than 300 incredible recipes which are low in sugar, fat and calories and are great for weight loss & diabetic diets

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Let Us Know What You Thought Of This Issue

Read something that you disagreed with, that you did not understand or that was really helpful? Send your feedback to **jamiljones@premiumperformancetraining.com**