NUTRITION:

Athletes and Carbohydrates "The Master Fuel"

Carbohydrates are a very important part of an athlete's nutrition plan.

WHAT ARE CARBOHYDRATES?

Dietary carbohydrates are important as fuel for exercising muscle. It is especially important for athletes during exercise and to replace the glycogen or carbohydrate stored in the muscles. Carbohydrates provide essential energy, especially for athletes. If athletes do not get the needed amount of energy, lean tissue will be used to fuel the body.

WHERE ARE CARBOHYDRATES IN FOOD?

Carbohydrates are in many types of food. Sources of healthy carbohydrates include fruits, whole grain bread products, milk and vegetables. Other carbohydrate choices include sports drinks, bars and gels.

CARBOHYDRATES PER SERVING:		
FRUIT	1 medium, 1/4 cup dried fruit, 4 oz. fruit juice	15 grams
BREAD	1 slice of bread, 1/2 bagel, 1/2 cup cooked pasta	15 grams
DAIRY	1 cup milk, 1 cup yogurt	12 grams
VEGETABLES	1 cup raw, 1/2 cup cooked	5 grams

WHAT CARBOHYDRATES ARE THE BEST?

To determine which foods high in carbohydrates should be eaten at particular times, food's glycemic index can be used. Glycemic index is the rate that the sugar in the food reaches the bloodstream. Overall, foods with lower glycemic index reach the bloodstream slowly and provide sustained energy. Foods with a high glycemic index are great for recovery and reach the bloodstream quickly. The chart below gives examples of foods which are low, medium and high on the glycemic index.

LOW	MEDIUM	HIGH
Yogurt, low-fat (33)	**Sweet potato** (59)	**Baked potato** (85)
Banana (30)	**Brown rice** (55)	**White bagel (72)**
All Bran cereal (38)	**Kellogg's Raisin Bran** (61)	**Corn flakes** (92)
Skim milk (32)	**Powerade** (65)	**Gatorade** (85)

CARBOHYDRATE NEEDS BASED ON INTENSITY AND DURATION OF SPORT*

TRAINING TYPE	DESCRIPTION	RECOMMENDED GRAMS OF CARBOHYDRATES PER KG BODY WEIGHT
Light-weight management	Low-intensity skill based	3-5
Moderate	1 hr./day	5-7
High	Endurance 1-3/hr. day of moderate to high-intensity practices	6-10
Intense	Extreme commitment 4-5 hr./day, with 2 practices per day	8-12

**(from the IOC Nutritoin for Athletes Consensus Statement 2010)*

HOW MUCH DOES MY YOUNG ATHLETE NEED?

The amount of carbohydrates needed for exercise depends on many different factors including type of exercise, duration and the individual.

Most athletes need 55-65% of their calories to come from carbohydrates.

ALL ABOUT CARB LOADING

Carbohydrate loading is most effective for endurance athletes engaging in exercise lasting 90 minutes or more. When tapering exercise before a distance event it is important to consume the same amount of carbohydrates to increase glycogen stores. If one has carb loaded properly, athletes should gain 2-4 pounds from the fluid retention associated with rapid increase in carbohydrates.

HIGH CARBOHYDRATE FOOD SUGGESTIONS:			
Bagel (whole)	57 grams	**Frozen yogurt** (1 cup)	44 grams
Baked beans (1 cup)	50 grams	**Raisins** (1/3 cup)	40 grams
Baked potato (1 large)	50 grams	**Spaghetti, cooked** (1 cup)	40 grams
Fruit yogurt (1 cup)	50 grams	**Apple juice** (8 oz)	30 grams
Pita bread	46 grams	**Oatmeal** (instant)	30 grams
Power Bars	45 grams	**Banana** (whole)	25 grams
Raisin Bran (1 cup)	45 grams	**Chocolate milk** (8 oz)	25 grams
Rice, cooked (1 cup)	45 grams	**Gels**	25 grams

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