

Maine Principal's Association
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Nutrition for Peak Performance
Presentation Overview

- Key Concepts for Attaining Healthy Weights & Peak Performance
- The Facts of Life (Calories, Carbohydrates, Fats, Proteins)
- Proper Hydration
- Sample Menus
- Recommended Foods to Eat on the Road
- Resources for Coaches, Parents and Athletes

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Nutrition for Peak Performance

Key Concepts

- The human body is a magnificent machine! With proper training and good nutrition it can perform at its best. What an athlete eats and drinks can affect health, body weight, body composition, energy availability during exercise, recovery time after exercise and ultimately exercise performance. Proper training includes both physical activity and good nutrition.
- To grow naturally and increase strength, the body needs an essential amount of calories and nutrients. During times of high physical activity, energy needs must be met in order to maintain body weight, replenish glycogen stores and provide adequate protein for building and repair of body tissues.

Minimum Percent Body Fat for Good Health

- Males – 7%-10% Body Fat Females – 12% -15% Body Fat
- Set realistic weight and body composition goals. Ask the athlete:
 1. What is the maximum weight that you would find acceptable?
 2. What was the last weight you maintained without constantly dieting?
 3. What weight do you feel best competing at?
- The goal of a healthy weight management program is to determine a minimum weight class that is safe for a given wrestler. A safe weight loss program also determines a weight loss timetable that ensures a wrestler loses weight in a safe and controlled manner. Competitive weight should be attained slowly during the off-season, prior to the competitive season. Weight should remain stable during the competitive season for peak performance.
- Athletes should not lose more than 1.5% of his/her body weight per week or no more than 2 pounds per week. Minimum daily calorie intakes should not go below basal metabolic rates or not below 1600-2000 calories.
- Wrestlers can achieve a healthy weight by following the latest Dietary Guidelines for Americans pictured in the new food plan at www.mypyramid.gov
- Weight Cycling, Yo-Yo Dieting and Weight Cutting are extremely detrimental to long term health and performance. The greater the peaks and valleys in weight, the more harmful this practice becomes. Each time the body loses and gains, more fat is layered onto the body. The body's metabolism kicks into starvation mode and becomes more and more efficient at storing calories. Hypo-caloric diets will not maintain athletic performance. Diet Pills and Diet Supplements are dangerous. Diuretics and laxatives rapidly dehydrate the body, impair performance and force nutrients out. These should be avoided by all athletes.

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Nutrition for Peak Performance Key Concepts

- Healthy weight loss will help athletes lose fat weight without sacrificing muscle tissue or becoming dehydrated. Rapid weight loss results in a loss of lean body tissue including muscle and organ tissue. Gradual weight loss of 1-2 pounds per week with a healthy diet enables athletes to continue to perform at their best without losing strength or endurance. Fasting causes the body to use lean body mass such as muscle tissue and organ tissue for energy even when fat is available. This significantly limits muscle growth and strength development.
- A “calorie” is a unit used to describe the energy content of foods. The body requires a minimum number of calories just to stay alive. This is known as the basal metabolism. If athletes drop below this level, energy is taken from lean body mass including muscle tissue and internal organs. Fasting is not appropriate.
- **Calories come from 3 major food groups; carbohydrates, proteins and fats.**
- **Carbohydrates** are the body’s most efficient form of fuel – the hi-test fuel for athletes. Complex carbohydrates like breads, cereals, rice, pasta, fruits and vegetables are the best choices. Recommendations for athletes range from 6-10 grams of carbohydrate per kilogram body weight per day. 50-60% of total daily calories should come from carbohydrates.
- **Protein** is important for muscle building and repair however excess protein is stored as fat. 20-25% of total calories should come from lean protein sources. Protein recommendations for heavily trained athletes are 1.2 to 1.4 grams per kilogram of body weight per day. Protein intake can generally be met through diet alone, with the use of protein powders or amino acid supplements, if energy intake is adequate to maintain body weight.
- **Fats** are essential for good health. Choose vegetable oils, nuts and seeds to provide ample calories and essential fatty acids daily. No more than 30% of total calories should come from fat.
- Athletes can meet energy and nutritional needs by following the U.S. Dietary Guidelines for Americans 2005 at <http://www.mypyramid.gov>. Caloric intakes should range from 2,500 to 5,000 daily for optimal performance.

Nutrition for Peak Performance

Key Concepts

Principles	Considerations	Recommend
#1. FLUIDS	Water is the best! Choose Flavored Water, Sports Drinks & Dilute Fruit Juices. Avoid caffeinated beverages and alcohol – they dehydrate!	Drink it cool. Consume 6-8 eight ounce glasses daily. Drink 6-12 ounces every 15 minutes of exercise.
#2. CALORIES	Total caloric intake should maintain a healthy weight and be from the following: <ul style="list-style-type: none"> • 50-70% carbohydrate • 20-30% fat • 15-25% protein 	Eat more whole grains, pasta, rice, breads, fruits, vegetables, low fat dairy products and lean meats.
#3. CARBOHYDRATES	The body's hi-test fuel! Should be eaten through the day to replace muscle glycogen and energy. Avoid simple sugars such as candy & soda.	Eat more complex carbohydrates like pasta, rice, cereals & breads, fruits & vegetables. These provide key vitamins and minerals.
#4. VITAMINS & MINERALS	Vitamins & minerals are essential for top performance. Avoid popping pills or mega-doses of diet supplements.	Eat a variety of foods packed with good nutrition. A well-balanced diet will meet normal nutrition needs.

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Key Concepts for Proper Hydration

- Proper hydration achieved through adequate fluid intake is critical for peak athletic performance. Consuming adequate fluids before, during and after exercise can help maintain body temperature, blood glucose levels, maximize exercise performance and improve recovery time.
- Water is the most important nutrient.
- The human body is 60-70% water in content.
- Water is essential for optimal health and peak athletic performance.
- A fluid loss of 2-3% of an athlete's body weight can impair both physical and mental performance.
- Athletes should drink 6-8 (8 oz) glasses of water daily (A total 48-64 oz per day)
- Choose beverages that are non-caffeinated such as water, flavored water, fruit juices, sports drinks and herbal teas.
- Avoid all caffeinated beverages including coffee, tea and carbonated soft drinks.
- Two hours before exercise, athletes should consume 12-24 ounces of fluid.
- Drink 6-12 ounces of fluid every 15 minutes during competition.
- Athletes may weigh themselves before and after practice. Fluid weight lost should be replaced prior to the next practice. Drink 16 ounces (2 cups) of fluid for every pound that is lost.
- Dangers of dehydration: deteriorating performance, heat illnesses, heat stroke, and even death.

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**Sample Menu for Peak Performance
2500 Calories**

Meal	Food/Beverage	Portion Size
Breakfast	Skim or Lowfat Milk	1 cup
	Cereal, Fortified Flakes	1 1/2 cups
	Fresh Fruit - Banana	1 whole
	Orange Juice	1/2 cup
	Whole Grain Toast	1 slice
	Margarine, Soft tub	1 teaspoon
Lunch	Skim or Low Fat Milk	1 cup
	Whole Grain Bread	2 slices
	Lean Sliced Meat (Turkey)	2 ounces
	1 slice Swiss Cheese	1 ounce
	Lettuce Leaves	As desired
	Tomato Sliced, Raw	As desired
	Baby Carrots	As desired
	Reduced Fat Ranch Dressing	2 Tablespoons
	1 orange	Medium size
Snack	Pretzels	1.5 ounces
	1 Fresh Fruit	1 apple or 1 cup grapes
Dinner	Skim or Low Fat Milk	1 cup
	Pasta, Cooked	2 cups
	Skinless Chicken Breast, Broiled	4 ounces cooked
	Green Beans	1 cup
	Margarine, Soft Tub	2 teaspoons
Snack	Fat-Free Popcorn	3 cups popped

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Nutrition for Peak Performance
Eating On The Run

Stay Hydrated Every Day!

- Water, Water, Water
- Flavored Waters
- Sports Drinks
- Fruit Juices
- Decaffeinated Beverages
- Low-fat Flavored Milks

Choose Foods for High Energy At Every Event!

- Apples, Bananas, Grapes, Melons, Oranges, Peaches, Pears, Plums
- Dried Fruits, Raisins, Applesauce
- Bagels, English Muffins, Whole Grain Breads
- Pretzels, Popcorn, Triscuits, Wheat Thins
- Fig Bars, Graham Crackers, Vanilla Wafers, Ginger Snaps
- Dry Cereals, Low Fat Granola, Breakfast Bars, Cereal Bars
- Nutritional Bars, Power Bars, Harvest Bars
- Carrots, Celery Sticks, Cucumber Sticks
- Low-Fat Yogurts
- Low-fat Puddings

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Resource List

American Academy of Pediatrics

<http://www.aap.org>

American Academy of Family Physicians

<http://www.aafp.org>

American College of Sports Medicine

<http://www.acsm.org>

American Dietetic Association

<http://www.eatright.org>

Maine Nutrition Network

<http://www.maine-nutrition.org>

Dietary Guidelines for Americans 2005

<http://www.mypyramid.gov>

USDA'S Team Nutrition Program

<http://www.teamnutrition.usda.gov>

Centers for Disease Control and Prevention

<http://www.cdc.gov>

Gatorade Sports Science Institute

<http://www.gssiweb.com>

National Collegiate Athletic Association (NCAA)

<http://www.ncaa.org>

U.S. Olympic Internet Network/The Mat.com

<http://www.themat.com>

Student-Athlete Educational Foundation

<http://www.chap.com>