PowerUP

Sports Nutrition Playbook

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Your job as an athlete is to work hard and be prepared to compete. Getting the right nutrition and hydration is the key to being prepared and successful! Get ready to PowerUp with this "Playbook" for peak nutrition performance.

The Basics

Fuel: Food fuels student athletes to be at their best. For your best performance, eat enough and don't skip meals! You can get an edge on strength, power, speed, stamina and recovery by spreading out three meals and three snacks throughout the day, based on your practice schedule. The goal is to eat about 2-3 hours before exercising. When athletes do not eat enough their bodies are less likely to achieve peak performance and may break down muscles, instead of building them up.

Carb boost: Because most sports requires bursts of energy, eating enough carbohydrates (carbs) is key to performance. Good sources of "carbs" are whole grains like cereals, pasta, rice and bread. Fruits, milk, yogurt and starchy vegetables (corn, peas and potatoes) also contain many carbs. Many athletes don't get enough carbs and eat too much fat and protein. **Half or more (50-65%)** of calories should come from carbs; for the average athlete, that means eating 350-500 grams of carbohydrates each day.

Protein power: Protein is needed to build and maintain muscle mass, but more is not better. Protein should make up **15-20%** of total calories, or about 70-160 grams of high-quality protein each day for the average player. High-quality proteins include meat, fish, poultry, cheese, eggs, milk, yogurt, whey protein, soy protein and nuts.

Fat facts: You need some fat for energy and absorbing certain nutrients. High fat foods include margarine, butter, salad dressings, oils and nuts. Fat should make up **25-30%** of your total calories each day. Choose healthy fats like olive or canola oil, nuts or avocados. Be aware of hidden fats and deep fried foods.

Hydrate! Think about your drink. Fluids and hydration are an often-overlooked part of performing as an athlete. Staying hydrated pre-, during and post-exercise will peak your performance and give you the edge. You need about **90-100 ounces** of fluid each day (that's about **11 cups**). Water and milk are the best choices during training and the season. Avoid drinks with lots of added sugar or those with caffeine, like soft drinks, juice drinks and flavored teas. Chocolate milk or sports drinks* (i.e., Gatorade® or PowerAde®) may be recommended after exercise lasting longer than 1-2 hours, or during hot weather. Sports drinks offer no benefits for daily use, or for intense exercise less than 1-2 hours. Drink water instead!

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Sports Nutrition Guide

Different sports require different combinations of endurance, intensity, power and strength. This guide can help you plan to get the right balance of fuel and hydration for top sports performance. *(This grid is based on an average size player with a typical practice schedule. Players may need more or less, depending on size, activity and individual needs.)*

Type of Sport	Daily Calories	**Carbs** (grams per pound of body weight per day)	**Protein** (grams per pound of body weight per day)	Examples	Daily Hydration*
Endurance Sports (Running, distance cycling, triathlons, Nordic skiing)	Calorie needs depend on weight and activity level. **Girls** usually need about 2400-3000 calories per day. **Boys** usually need 2800-3500 calories per day. Based on activity and size, athletes may need up to 5000 calories a day.	3.6-4.5 grams/lb.	0.5-0.6 grams/ lb.	**Girls Cross Country Runner: Endurance Sport** Weight: 120 lbs. **Carbohydrates**: 120 x 3.6-4.5 gms/lb. = 432-540 gms/ day **Protein**: 120 x 0.5-0.6 gms/lb. = 60-72 gms/day	**90-100 ounces of fluid*** To get enough, be sure to drink: • 16 oz. first thing in the morning. • Water throughout the day. • 24-48 ounces of water per hour of practice Drink another 24 ounces of fluid for every pound lost during exercise. *Weigh-in before and after heavy practices or in hot weather.*
High Intensity, Power, and Strength Sports (Soccer, swimming, volleyball, lacrosse, basketball, hockey, gymnastics, football, sprinting, wrestling, baseball, tennis)		2.3 grams/lb.	0.6-0.8 grams/ lb.	**Boys Basketball Player: High Intensity Sport** Weight: 180 lbs. **Carbohydrates**: 180 x 2.3 gms/lb. = 414 gms/day **Protein:** 180 x 0.6-0.8 gms/lb. = 108-144 gms/day.	

***Fluids include primarily water and milk, with some chocolate milk or sports drinks after exercise.** Sports drinks are not for meals but for after or during exercise greater than 1-2 hours per day and/or hot weather. Water is best for shorter exercise sessions. Drinks with caffeine are not recommended and do not count toward your fluids because they can have a dehydrating effect on your body. Caffeine can also affect your sleep and make you jittery or anxious, which may negatively affect your performance.*

Note: ***Heavy training—more than 2 hours of intense workouts a day (or "two a days")—increase an athlete's need for carbohydrates, calories and fluid. During these heavy training periods, athletes may need up to 700-900 grams of carbohydrate and more than 3,000 calories.***

80/20 Rule:
Great news, you don't have to have to be perfect to eat well for sports! Strive to make at least 80% of the foods you eat healthy and power-packed with nutrition. There is a little room for sweets, treats, or less nutritious snacks. Just keep it to 20% or less of what you eat. It's a matter of balance and moderation!

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Meal and Snack Ideas for Busy Athletes

Meal Ideas for Athletes		
Timing	**Meal/Snack**	**Examples**
4-5 hours before event	**Bigger meal** with 200-300 grams of carbs and 20-30 grams of protein.	2 cups whole grain pasta 1 cup marinara sauce with meat 1 bread stick 1 cup veggie of choice 1 apple or 1 cup of fruit 16 oz. low-fat or skim milk
2-3 hours before event	**Lighter meal** with 30-40 grams of carbs and protein.	Turkey, tuna or chicken breast sandwich/sub Fruit water
1/2-1 hour before event	**Snack** with 15-30 grams of carbs and not much protein or fat (as they take longer to digest)	Pretzels and water
After the event	Snack with generous amount of fluid and carbs	Water, milk/chocolate milk, sports drinks** with crackers or fruit.

See page 5 for a sample menu for one day.

PowerUp Your Training Plate!

To get the right fuel for sports, you need balance, with extra carbs and protein.

So, fill your plate with:

1/3 protein foods like:
Turkey, fish, chicken, meat, eggs, cheese, or nuts.

2/3 high carb foods like:

- Whole grains (rice, bread, pasta)
- Fruits and veggies (including starchy veggies like peas, potatoes, corn).
- Drink milk with meals for more high-quality carbs and protein.

Protein Supplements?

Specialized protein supplements and shakes are expensive and not always helpful. By eating more protein in foods such as meats, fish, eggs, cottage cheese, milk, yogurt, you should be able to meet all your protein needs. ***Remember: don't overdo the protein—it makes your kidneys work too hard!*** If you can't get enough protein from food, some athletes supplement with protein shakes or powders. For any protein supplement check the label for whey or soy protein which safe in moderation. Beware of creatine, however, which claims to improve performance, but those claims have not been proven. The American Academy of Pediatrics says that these types of supplements pose serious risks to your health (hydration, kidneys and more). They should not be used by teens or kids. Be supplement savvy and get your protein from food, and be sure to avoid creatine.

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Tips and Tricks to PowerUp Athletes

Breakfast. Don't leave home without it.

Getting some carbs and protein doesn't have to be complicated. Aim for simple foods like:

- Carnation Instant Breakfast Drink*
- A smoothie made with fruit and yogurt
- Peanut butter toast and milk

Snack Attacks

Remember to eat a post-exercise snack within 30 minutes after you exercise or have a game. This helps restore the energy stored in your muscles (called glycogen). Make your snacks count with a combination of protein and carbohydrate. Examples:

- Cheese or cottage cheese with fruit or crackers
- Peanut butter sandwich
- Yogurt and fruit
- Banana with nut butter
- Trail mix with fruit and nuts
- Beans (refried or black beans) and cheese tortilla rollup with salsa
- Hardboiled egg with toast
- Cereal and milk

AFTER TRAINING, DRINK WATER, plus 8-12 ounces of chocolate milk or sports drinks* to rehydrate and restore.

A quick recipe anyone can make!

No Bake Energy Bites

These delicious little energy bites are the perfect healthy snack!

Ingredients:

- 1 cup old fashioned oats
- 1/2 cup peanut butter, almond butter or sunflower seed butter
- 1/2 cup ground flaxseed or wheat germ
- 1/2 cup dried fruit
- 1/3 cup honey
- 2/3 cup toasted coconut flakes (optional)
- 1 tsp. vanilla extract

Directions:

Stir all ingredients together in a medium bowl until thoroughly mixed. Let chill in the refrigerator for half an hour. Once chilled, roll into balls about 1" in diameter. Store in an airtight container and keep refrigerated for up to 1 week. Makes about 20-25 balls. Nutrition information for one energy ball: 100 calories, 9 grams carbohydrate, 3 grams of protein, 2 grams of fiber.

Want to Gain Weight?

- Eat small frequent meals throughout the day—aim for 3 meals and 3 snacks daily. Don't skip breakfast.
- Drink high calorie and nutrient-rich beverages, such as Carnation Instant Breakfast, Boost or Smoothies
- Add extra cheese, peanut butter or other healthy protein foods and fats.

Want to Lose Weight?

Wait until after the season! The focus of training is to get ready for upcoming games; trying to lose weight will take energy away from your performance. Here are some suggestions:

- Don't restrict carbohydrates; you need them for energy
- Don't skip meals; just decrease portion sizes
- Drink water instead of sweet soft drinks, tea and juices.
- Include more protein foods, fruits and vegetables to help satisfy hunger and important nutrients
- Limit fast foods and avoid super-sizing
- Eat food from a plate, not out of original container

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Sample 1 Day 3000-3300 Calorie Meal for Athletes

Meal	Food	Calories	Carbs (gms)	Protein (gms)	Fluids (ounces)
	Water, 16 ounces				16
Breakfast	Milk (1%), 8 ounces	100	12	8	8
	Whole grain bagel with peanut butter (2 Tbsp.)	495	63	14	
	Banana (large)	120	30		
Snack	Trail mix, 1 ounce	140	13	6	
	Water, 8 ounces				8
Lunch	Whole grain bread, 2 slices with and 1 ounce cheese	160	30	6	
	Turkey, 3 ounces	165		21	
	Cheese, natural, 1 ounce	100		8	
	Lettuce, tomato and spreads	50			
	Apple, large	110	26		
	Tortilla or Sun Chips, 1 ounce	140	18	3	
	Milk (1%) , 8 ounces	100	12	8	8
	Water, 8 ounces				8
Snack	Crackers with nut butter	190	23	8	
	Grapes, handful	105	28		
	Water, 16 ounces				16
Dinner	Grilled pork chop, chicken or lean steak, 5 ounces	300		35	
	Whole grain pasta, 2 cups	320	90	12	
	Stir fried vegetables, 1 cup	50	6	2	
	Whole grain dinner roll	100	16	3	
	Berries, 1 cup	80	20		
	Milk (1%), 8 ounces	100	12	8	8
	Water, 8 ounces				8
Snack	2 cups Cheerios	220	44	6	
	Milk (1%), 8 ounces	100	12	8	8
	Raisins, 2 Tbsp.	85	20		
	Water, 8 ounces				8
TOTAL		3330 Calories	475 grams carb	156 grams protein	96 ounces fluid

To make a personalized meal plan based on your weight and activity level:

- **visit on your computer or smart phone: www.myfitnesspal.com www.calorieking.com**
- Meet with a registered dietitian for a more specific meal plan to meet your nutrition needs. Check with your school's health office or HealthPartners clinic for availability.

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Finding Carbohydrates and Protein

To help you determine how much carbohydrate and protein a food has, first use the label (if it has a label); otherwise, use the guide below of common foods to help guide you to meet your needs.

Carbohydrate-Rich Foods Remember, when it comes to grains, whole grains like whole grain bread or pasta, or brown rice are your best choice!	**Carbs** (grams)
Pasta (1 cup cooked)	40
Rice (1 cup cooked)	45
Whole Wheat Bread (1 slice)	14-25
6" Sub Sandwich	38-48
12" Sub Sandwich	94-120
Flour Tortilla 8"	26
Corn Tortilla 6"	11
Bagel (Large)	56-65
Hamburger Bun	30
Breakfast Cereal (Varies) 1 cup	19-48
Crackers (Varies)	12-30
Baked Potato (1 Large)	60
Mashed Potatoes (1 cup)	30
Corn or Peas (1 cup)	30
Orange (Large)	33
Apple (Large)	26
Banana (Large)	30
Grapes (1 cup)	30
Broccoli , Steamed (1 cup)	8
8 oz. milk	12
Greek yogurt	24
Regular yogurt	20
Sports Drink (20 oz.)	33
Sports Bars	24-48

Protein-Rich Foods	**Protein** (grams)
Chicken Breast (3 ounces)	26
Pork Chop (3 ounces)	25
Hamburger Patty (3 ounces)	24
Tuna (3 ounces)	20
Turkey (3 ounces)	28
Fish (4 ounces)	28
Yogurt (8 ounces)	5-10
Greek yogurt (6-8 ounce)	14
Cottage Cheese (1/2 cup)	13
String Cheese (1 oz.)	8
Egg (1 Large)	6
Peanut butter (2 tablespoons)	8
Sunbutter (sunflower seeds) (2 Tbsp.)	6
Tofu (4 ounces extra firm)	8
Bocca Burger (1 patty)	13
Baked Beans (1 cup)	13
Almonds (1 ounce)	6
Milk, low-fat (8 ounces)	9
Whey Protein (1 ounce)	25
Black beans, Kidney beans, Garbanzo bean or refried beans (1 cup)	15

References:

American Dietetic Association, nutrition pamphlet, "Winning sports nutrition: the athlete's guide to healthful eating. 2005.

Sports Nutrition, A Practice Manual for Professionals, 4th Edition, American Dietetic Association, 2006.

Academy of Nutrition and Dietetics, Nutrition Tips for Coaches of Teen Athletes. 2012

Sports, Cardiovascular and Wellness Nutrition, Nutrition Fact Sheets, Issue 16, 2012

Fuel up with the Right Amount

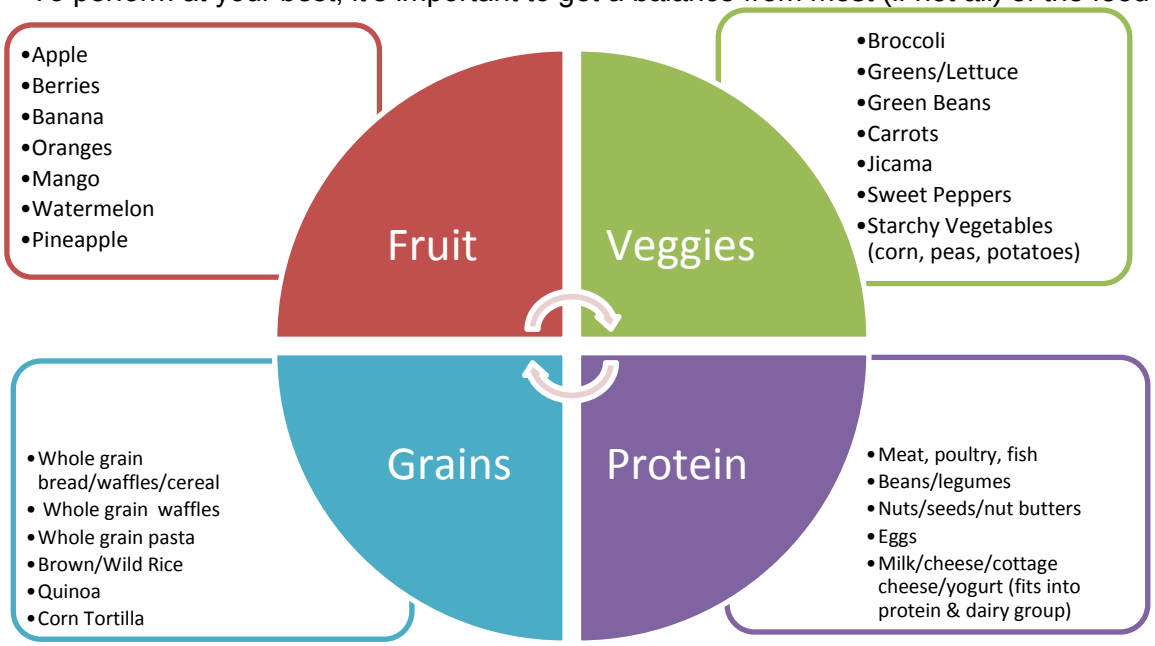
GIRLS: Average girl athlete needs 2400-2800 calories a day (varies based on individual and sport)
BOYS: Average boy athlete needs 2800-3500 calories a day (varies based on individual and sport)

DIFFERENT SPORTS REQUIRE DIFFERENT CALORIE NEEDS?

SPORT	ESTIMATED CALORIES BURNED PER HOUR
Baseball or Softball	300-400 calories per hour
Basketball	400-600 calories per hour
Cross Country Runners	100 calories per mile they run *Note: Running Marathons and Triathlons burns more calories*
Football	500-700 calories per hour
Golfing – carrying a bag	230-350 calories per hour
Golfing – riding in a cart	125-200 calories per hour
Hockey	600-900 calories per hour
Lacrosse	500-730 calories per hour
Football	500-700 calories per hour
Mountain Bike Racing	480-700 calories per hour
Skiing - Alpine	400-600 calories per hour
Skiing - Nordic	400-600 calories per hour *Note: Skiing uphill may burn up to 800 calories per hour*
Soccer	500-700 calories per hour
Swimming – Competitive	600-800 calories per hour
Swimming – Synchronized	500-700 calories per hour
Tennis – Singles Match	450-700 calories per hour
Tennis – Doubles Match	300-500 calories per hour
Volleyball	350-550 calories per hour
Wrestling (1 match = 5 minutes)	350-545 calories

POWER YOUR PLATE FOR SPORTS

To perform at your best, it's important to get a balance from most (if not all) of the food groups at every meal.



Every meal and snack, include:

- **CARBOHYDRATE** which can come from fruit, veggies, grains, milk or yogurt to boost your energy.
- **PROTEIN** to help satisfy hunger, build and maintain muscle and balance out energy needs.
- **Fat** is found naturally in foods (like meat, nuts, eggs, cheese), and even some veggies, like avocado and olives. When it comes to fat, the goal is to choose "healthy" fats like olive or canola oil, olives, avocado, or nuts/seeds.
- **WATER** at least 8-16 ounce (1-2 cups) at meals, with goal of 90-100 ounces (11-12 cups) a day, depending on activity and individual needs. Staying hydrated will peak your performance and give you the edge.

POWER UP Sample Meal Ideas for Athletes

BREAKFAST

Whole grain English Muffin with nut butter
Fruit and/or veggie
1 cup milk or yogurt
8-16 oz water

1-2 eggs (or omelet with veggies)
1-2 whole grain toast
Fruit and/or veggie
1 cup Milk or yogurt
8-16 oz Water

Fruit Yogurt Parfait
-1 cup Greek yogurt
-1/4-1/2 cup granola
-1 cup berries
8-16 oz water

Fruit Smoothie
1-2 whole grain waffles with nut butter
8-16 oz water

Lunch

Ham/Turkey + Cheese Wrap or Sub w/lettuce
Fruit - orange
Veggie – Jicama
1 oz bag whole grain chips (Sun chips)
1 cup milk or yogurt
16 oz water

School Lunch:
- Protein
- Veggie + Fruit
-Whole Grain
1 cup milk or yogurt
16 oz water

Salad/Greens with:
- 2 hard-boiled eggs or other protein (chicken, black beans, cottage cheese, nuts/seeds)
- Fruit: berries
Whole grain crackers
1 cup milk or yogurt
16 oz water

Nut Butter or Tuna Sandwich (on whole grain bread or crackers)
Veggie + Fruit
1 cup milk or yogurt
16 oz water

Dinner

3-4 oz protein
Baked potato w/plain Greek yogurt
Brown/wild rice
Veggie/Salad + Fruit
1 cup milk
16 oz water or more

2 cups pasta (whole grain) with tomato pasta sauce
3 oz protein (hamburger, shrimp, chicken, etc.)
Veggie + Fruit
1 cup milk
16 oz water or more

1-2 Tacos (corn or whole grain tortillas) with choice of protein (chicken, beef, fish, beans, cheese)
Veggies: lettuce, salsa, avocado/guacamole
1 cup milk
16 oz water or more

1-2 cups Casserole/Lasagna
Salad/Veggie
Fruit
1 cup milk
16 oz water or more

Snack (1-2 Carb choices + 1-2 ounces Protein)

Fruit and/or veggie
¼-1/2 cup trail mix (dry whole grain cereal, dried fruit, nuts/seeds)
8-16 oz water

1-2 oz cheese/natural or string
4-8 Whole grain crackers
Fruit and/or veggie
8-16 oz water

Hummus or Nut butter w/crackers
Fruit and/or veggie
1 cup milk
8-16 oz water

Fruit –Nut or Protein Bar
Fruit and/or veggie
8-16 oz water

MEALS: HOW MUCH? HOW OFTEN?

To reach your peak performance and balance your nutritional needs each day, it's important that by **afternoon practice time** most athletes should have eaten at least:

- ✓ 2 meals
- ✓ 2 snacks
- ✓ 48 ounces (6 cups) of water
- ✓ At least 1,000 calories (from a variety of foods)

This means eating the following before your athletic event OR afternoon practice!

- Breakfast
- Morning snack
- Lunch
- Afternoon snack

ON THE ROAD WITH SPORTS!

Traveling Tips for Eating:

Choose:

- Grilled Chicken Sandwich
- Wraps with lean meat or veggie and beans and/or cheese
- Sub sandwiches with plenty of veggies
- Pasta dishes with chicken or shrimp with veggies and tomato-based pasta sauce
- Peanut or nut butter sandwiches with fruit
- Baked potato topped with cheese & broccoli/veggie, chili or cottage cheese
- Milk and/or Water

Limit or Avoid:

- Fried food
- Spicy foods (may upset stomach and cause irritation)
- Heavy fat foods (like chips, fries, hamburgers, etc.)
- Sugary drinks (like soda, large amounts of sports drinks, or other sugary drinks)

Pack (and bring along):

- Fruit and/or raw veggies
- Cheese or nut butter with whole grain crackers
- Protein or fruit-nut bars
- Trail mix with dried fruit
- Energy bites (see recipe included)
- Extra water

Proper nutrition all year long will lead to a more SUCCESSFUL TEEN on and off the field!