

# Nutrition



## *Sport Nutrition*

The value of a proper diet and good nutrition has become increasingly important in athletic performance. Good nutrition is essential for maximizing performance in athletics. Food provides us the energy to train and the building blocks to grow. The hard training athlete must be properly fueled if they are to reach their physical potential. Consistent eating patterns and attention to a balanced diet will provide you with all the benefits of good nutrition. The following information will assist you in making good choices on a daily basis. Proper nutrition and weight control is a life long habit, teach yourself proper guidelines now!

### ***Balanced Diet***

A balanced diet consists of:

Carbohydrates:	65% of daily caloric intake
Fats:	20% of daily caloric intake
Proteins:	15% of daily caloric intake

#### **Carbohydrates**

Grain products  
Vegetables  
Cereals  
Rolls  
Breads  
Fruit  
Pasta  
Rice

#### **Fats**

cheese  
oils  
butter  
whole milk  
ice cream  
bacon/ sausage

#### **Proteins**

fish  
poultry  
beef  
beans  
eggs

### ***Guidelines for good eating***

Breads/ cereals/ rice/ pasta: 6-11 servings/ day  
Fruits and vegetables: 5-9 servings/ day  
Meat/ poultry/ fish/ dried beans/ eggs/ nuts: 2-3 servings/ day  
Milk/ yogurt/ cheese: 2-3 servings/ day  
Fats and sweets: USE SPARINGLY!!!

**Do not skip meals!** This will result in reduced energy levels, late day overeating and will lower your Basal Metabolic Rate. **EAT BREAKFAST!** It is important to maintain energy levels throughout the day. Breakfast gives you the energy to start your day. Skipping meals to loose weight is counterproductive. You should eat at least 3 meals per day, preferably 4-5 smaller ones. If you skip breakfast your body will have gone without nutrition for **18 hours**. This is not conducive to hard training.

**Increase foods which are high in carbohydrates and grains.**

Add fruits and vegetables to every meal. They are high in vitamins and minerals and generally high in water content and carbohydrates.

**Cut down on foods high in fat:** red meats  
pork  
mayonnaise  
creamy salad dressing  
fried foods  
oils

**Diets high in fat can lead to:** chronic exhaustion  
% body fat increases  
muscle tissue decrease  
increased blood pressure  
irritability  
stress on joints  
increased cholesterol levels

## ***Good food choices***

### ***Breakfast***

Pancakes/ waffles/ French toast with syrup- no butter  
Egg sandwich- no sausage  
English muffins/ toast or bran muffin with preserves/ jelly/ fruit butters  
Bagels with preserves/ jelly/ apple butter  
Low fat milk or yogurt  
Oatmeal with honey and/or fruit  
Dried fruit alone or mixed with dry cereal and nuts  
Low fat granola

### ***Lunch***

Vegetable or chili stuffed potatoes  
Salad with low fat dressing  
On salad bars add veggies, dried beans, beets, carrots, pasta, crackers, rolls, bagels, bread  
Turkey, chicken or roast beef sandwiches on bagel, whole grain bread  
Add tomatoes, green peppers to sandwiches  
Pasta with meat or meatless sauce  
Tacos without sour cream  
Baked/ broiled meats instead of fried  
Vegetable/ chicken soups. Cheese and creamed soups are high in fat  
Cheese or veggie pizza

### ***Dinner***

Less emphasis on meats and more on starches: Rice/ pasta/ potatoes and vegetables  
Meats should be bakes/ broiled/ grilled instead of fried  
Pasta with clam or marinara sauce  
Fish steamed in tomato sauce  
Chicken breast without the skin with rice and vegetables  
Stir fry dishes with lean meat and lots of vegetables in minimal oil

## **Snacks**

Whole grain crackers  
Dried fruit  
Pretzels  
Graham crackers  
Low-fat yogurt  
Fresh fruit  
Dry cereal  
Dry roasted nuts  
Bread sticks

## **Eat every 2-3 hours**

## **Include carbohydrates at every meal**

Watch the **caffeine** (cokes, coffee)- it lowers blood sugar and can make you hungrier. It is also a diuretic and can be dehydrating.

**Limit your intake of sweets.** They can actually lower blood sugar and make you eat more!

## **Eating at home:**

Cook double batches of pasta/ rice/ noodles/ potatoes and store them for later

Baked potatoes in microwave

Use frozen veggies and salsa to top potatoes/ pasta and rice

Buy canned clams and add to spaghetti sauce to serve on pasta

Use packaged rice or noodle dishes for time savers and add veggies to boost nutritional value

Buy black beans, mix with salsa and serve in corn tortillas with or without grated cheese

Use canned meats such as chicken/ salmon/ tuna for time savers

Buy already prepared vegetables at salad bar

Do stir fries with or without meat and add some beans

**Water is the most neglected nutrient.** Fluid is very important to the hard training athlete. Water makes up 65-70% of the muscle. Muscles will not be able to function properly if they are dehydrated. Drink plenty of fluids prior to, during and following any athletic activity. Do not wait until you are thirsty to drink water. Athletes should drink a minimum of 8-10 12 ounce glasses of water per day. Dr. Pat Mann, former nutrition consultant for the Washington Capitals Hockey Team, states, "There is no fountain of youth, no magic pill or potion to enhance performance. But there is water." She adds, "**...few things cripple athletes faster than dehydration.**"

You don't need to be in an exhausted state to negatively impact your performance. Dr. Mann states, "A one to two percent drop in body weight due to water loss can cause a 15% decrease in performance."

Athletes simply don't drink enough water. They contribute to the problem by consuming diuretics such as alcohol, coffee, tea, and caffeinated sodas. Athletes perspire profusely every day. You lose additional water simply by breathing. Under normal circumstances, we lose 2 to 3 liters of water a day. This water must be replaced. You should consume at least two extra quarts (eight 8 ounce glasses) of water every day above and beyond what you sweat to remain properly hydrated.

**Monitor your salt intake.** Salt dehydrates the body and may cause high blood pressure. Do not salt your food, there is already a lot in it.

### **Determining your daily caloric needs:**

In order to begin a successful weight loss or weight gain program, daily caloric needs must be determined. Daily caloric expenditure is the sum of a person's Basal Metabolic rate (BMR), average caloric needs of daily workouts (strength training and running), and requirements for normal daily activities (walking, driving, running errands). BMR= 1 x body weight (kg.) x 24 (see chart for individual BMR). Once the BMR is determined, the caloric needs of daily workouts must be determined. The Notre dame workout plan will require about 1000 cal/ day. The requirement for normal daily activity is approximately 500 cal/ day.

For a 200 lb. Athlete

BMR	=	2181 cal.
Daily workouts	=	1000 cal.
Daily activity	=	<u>500 cal.</u>
Total Daily Requirement	=	3681 cal/ day

### **Basal Metabolic Rate Conversion Chart**

Calories per day needed to

<b><i>Body Weight (lbs.)</i></b>	<b><i>BMR in Calories</i></b>	<b><i>Maintain Body Weight</i></b>
170	1855	3355
175	1909	3409
180	1964	3464
185	2018	3518
190	2072	3572
195	2127	3627
200	2181	3681
205	2236	3736
210	2290	3790
215	2345	3845
220	2400	3900
225	2454	3954
230	2509	4009
235	2563	4063
240	2618	4118
245	2672	4172
250	2727	4227
255	2781	4281
260	2836	4336
265	2890	4390
270	2945	4445
275	3000	4500
280	3054	4554
285	3109	4609
290	3163	4663
295	3218	4718
300	3272	4772
305	3327	4827
310	3381	4881
315	3436	4936
320	3490	4990
325	3544	5044

## ***Weight Gain***

Many athletes are interested in gaining weight. The type of weight an athlete needs to gain is lean body mass (muscle mass). This can only be done through a proper strength training regimen and sound nutritional habits. As a general rule, in order to gain weight you must consume more calories per day than your body expends. To do this, you must determine how many calories per day your body expends. From this total, design an eating plan in which calorie intake exceeds your daily expenditure. The addition of 400-500 calories per day above your daily requirement would add about one pound per week. The key is to ensure that the weight gained is lean muscle mass and not fat. Gaining more than a pound per week results in increases in body fat, assuming that you are properly hydrated. Strength training will use the extra calories to stimulate growth.

### **Tips:**

Eat at least 3 large meals per day + 2-3 snacks

Snacks high in calories and nutrients:

Nuts

Dried fruits

Shakes/ malts

Peanut butter sandwiches

Cheese or veggie pizza

Granola or cereal bars

Drink water or milk with snacks

Eat a snack after dinner. Keep a loaf of bread and peanut butter and jelly in your room. Canned tuna packed in water is also a good after dinner snack.

## ***Weight Loss***

Bigger is not always better! If you sustain muscle growth, strength and speed with a gain in weight, then bigger is better, especially in football. For most people this is not the case. Excess body fat restricts speed of movement by adding useless weight that must be moved at high speeds. In order for many to perform at their optimal level, a loss of weight is necessary. Weight loss is a tricky situation. Many overweight people have developed a lifestyle around eating, and in order to lose weight, there has to be a lifestyle change. The method for weight loss is similar to that for weight gain. First, the amount of calories needed to maintain a specific body weight needs to be calculated. A 500-1000 calorie deficit in daily intake will result in a loss of 1-2 pounds per week. A slow reduction in body fat over a 8-10 week span is the key. Rapid weight loss will result in a loss of muscle tissue, this is counterproductive.

### **Tips:**

Burn off more calories per day than you take in. Add aerobic exercise.

Cut out all fatty foods.

To lose 1 pound of fat, you must eliminate 3500 calories. This is preferably done through an increase in exercise and a decrease in caloric intake.

Do not eat after dinner, preferably not after 7 PM.

## **Post Workout Nutrition to Enhance Recovery**

The body needs time as well as key nutrients to recover from each workout session. During periods of hard training there will be little time to recover between workouts. This is where post exercise nutrition can help repair muscle damage and speed up the recovery process.

The most important nutrient to replace is water. Intense workouts in hot, humid conditions can cause large amounts of fluid loss. Because exercise dulls thirst, athletes cannot rely on this sensation to guide fluid intake. The most accurate way to determine fluid need is to weigh yourself before and after workouts. For every pound of weight lost, drink one large glass of water.

In addition to replacing water lost during exercise, electrolytes (sodium and potassium) lost through sweat need to be replenished. A pound of sweat contains approximately 400-700 mg. Of sodium and 80-100 mg. Of potassium. Therefore, post exercise rehydration should include sources of both sodium and potassium. Sodium is found in salty foods including spaghetti sauce, pretzels, crackers, soup. Potassium is readily found in fruits and vegetables including potatoes, bananas and orange juice.

Carbohydrate intake is very important after exercise. When athletes eat a high carbohydrate diet, recovery time after exercise is shorter and more complete. The timing of carbohydrate intake is also critical. It is recommended to consume .5 grams of carbohydrate per pound of body weight within two hours after exercise (Example – 200 lb. Athlete x .5 grams/ lb. = 100 grams). This amount should be repeated again approximately two hours later. A 16 oz. glass of orange juice contains 50 grams of carbohydrate, 1 banana also contains 50 grams of carbohydrate. 2 cups of pasta have 80 grams of carbohydrate and an 8” hoagie roll contains 60 grams of carbohydrate.

Protein intake in the post exercise meal will also aid in recovery. Protein intake is particularly important in exercise which realists in muscle damage such as strength training, intense endurance exercise, two a day workouts and contact sports.

Fat should be kept out of the post workout meal as much as possible because it slows the absorption of carbohydrates and proteins.

## Sample Daily Menus

### 1200 Calories (Weight reduction)

<b><u>Breakfast</u></b>	<b><u>Serving</u></b>	<b><u>Cal</u></b>	<b><u>ProCal</u></b>	<b><u>FatCal</u></b>	<b><u>CarbCal</u></b>
Raisin bagel	1	200	28	18	152
Jam	1 Tbl.	55	1	1	54
Grapefruit	½ med.	40	4	0	36
Skim Milk	6 oz.	<u>70</u>	<u>27</u>	<u>4</u>	<u>38</u>
		365	60	23	286

### ***Lunch***

Tossed salad	2 cups	58	8	0	50
Tuna-chunk light	3 oz.	165	96	63	0
Crackers-wheat	6	53	6	14	32
Applesauce-unsw.	½ cup	55	0	0	55
Plum	1	35	4	0	34
Water	12 oz.	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
		331	114	77	169

### ***Dinner***

Lamb Chop-broiled	2.5 oz.	150	80	54	24
Cauliflower-cooked	1 cup	30	8	0	24
Mashed potatoes	½ cup	90	8	4	74
Corn	1 ear	90	12	9	76
Skim Milk	6 oz.	<u>70</u>	<u>27</u>	<u>4</u>	<u>38</u>
		430	135	71	236

### ***Snack***

Sunflower seeds	½ oz.	80	12	63	10
Cherries	10	<u>55</u>	<u>4</u>	<u>4</u>	<u>44</u>
		135	16	67	54

<b>Daily Total</b>		1261	325	238	745
<b>% of daily calories</b>			23%	18%	60%



## 2000 Calories

<u>Breakfast</u>	<u>Serving</u>	<u>Cal</u>	<u>ProCal</u>	<u>FatCal</u>	<u>CarbCal</u>
Grits-cooked	1 cup	145	12	0	124
Ham-lean	2 pcs.	105	68	36	0
Poached Egg	1	82	26	52	2
Wheat bread	2 slices	122	21	14	94
Pineapple juice-unsw.	1 cup	<u>140</u>	<u>4</u>	<u>0</u>	<u>136</u>
		594	131	102	480

### ***Lunch***

Egg noodles-cooked	1 cup	200	28	18	148
Chk-drum-roasted	2 med.	150	96	36	5
Greens beans-cooked	1 cup	45	8	0	40
Skim Milk	12 oz.	140	54	8	76
Oat/Raisin Cookie	2	116	7	36	76
Pear	1	<u>100</u>	<u>4</u>	<u>9</u>	<u>95</u>
		751	197	107	440

### ***Dinner***

Flounder-baked	6 oz.	160	136	18	0
Italian bread	2 slices	165	24	0	136
Tossed salad	2 cups	58	8	0	48
French dressing	2 tbl.	50	0	36	16
Broccoli-cooked	4 oz.	30	11	3	17
Water	12 oz.	0	0	0	0
Applesauce-unsw.	1 cup	<u>105</u>	<u>0</u>	<u>0</u>	<u>105</u>
		568	179	57	322

### ***Snack***

Honey & Oat	1	117	8	36	67
Granola bar					

<b>Daily Total</b>		2030	515	302	1309
<b>% of daily calories</b>			24%	14%	63%

## 3000 Calories

<u>Breakfast</u>	<u>Serving</u>	<u>Cal</u>	<u>ProCal</u>	<u>FatCal</u>	<u>CarbCal</u>
Scrambled egg	2	160	48	108	8
Oatmeal	1 cup	145	24	18	100
Raisins	¼ cup	109	5	1	105
Orange juice	8 oz.	112	7	4	100
Bagel	1	200	28	18	152
Skim Milk	12 oz.	<u>132</u>	<u>53</u>	<u>3</u>	<u>75</u>
		858	165	152	540

### **Lunch**

Turkey-light	8 oz.	149	112	30	0
Lettuce	1 pc.	2	0	0	2
Tomato	¼ med.	10	2	0	8
Mustard	1 tsp.	4	1	2	1
Pita bread 6 1/2"	1	165	24	9	132
Yogurt-lowfat w/fruit	8 oz.	230	40	18	172
Beef noodle soup	2 cups	280	63	97	114
Fruit punch drink	12 oz.	<u>170</u>	<u>0</u>	<u>0</u>	<u>176</u>
		1010	242	156	605

### **Dinner**

Ham-lean-roasted	7 oz.	300	195	95	0
Collard greens-cook	1 cup	25	8	0	20
Corn meal-cooked	1 cup	120	12	0	104
Black-eyed peas	1 cup	190	52	9	140
Wild rice	1 cup	221	27	5	191
Carrots-fresh	1 cup	49	6	3	44
Water	12 oz.	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
		905	300	112	499

### **Snacks**

Fig Bars	4 cookies	210	8	36	168
Banana	1	<u>101</u>	<u>5</u>	<u>2</u>	<u>100</u>
		311	13	38	268

<b>Daily Totals</b>		3084	720	458	1912
<b>% of daily calories</b>			23%	15%	62%

## 4000 Calories

<u>Breakfast</u>	<u>Serving</u>	<u>Cal</u>	<u>ProCal</u>	<u>FatCal</u>	<u>CarbCal</u>
Raisin Bran	1 cup	130	14	5	120
Bagel	1	200	28	18	152
Cantaloupe	½	82	8	3	81
Hash Browns	1 cup	355	19	163	180
Poached Egg	1	82	26	52	2
Wheat bread	2 slices	122	21	14	92
Jam	2 Tbl.	110	1	2	112
Orange juice	8 oz.	112	7	4	100
Skim Milk	12 oz.	<u>132</u>	<u>53</u>	<u>3</u>	<u>75</u>
		1325	177	264	914

### **Lunch**

Orange juice	8 oz.	112	7	4	100
Fruit cocktail	1 cup	194	4	3	187
Green beans-cooked	½ cup	16	4	1	14
Mixed vegetables	½ cup	58	12	2	50
Spaghetti & Meat	1 cup	332	74	105	155
Dinner Roll	2	238	23	54	156
Lite-line cheese	3 oz.	156	88	59	7
Sweet potato-baked	1	115	8	0	112
Diet Soda	12 oz.	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>
		1221	220	228	795

### **Dinner**

Tea	12 oz.	3	0	0	3
Baked potato	2 med.	290	32	4	260
Peas-canned	½ cup	68	16	3	51
Steak-lean	5 oz.	300	176	108	0
Whole wheat roll	2	180	28	18	145
Jello w/ fruit	1 cup	<u>186</u>	<u>11</u>	<u>68</u>	<u>115</u>
		1027	263	201	574

### **Snacks**

Apple	1	96	0	9	96
Chocolate pudding	1 cup	<u>310</u>	<u>32</u>	<u>72</u>	<u>216</u>
		406	32	81	312

<b>Daily Totals</b>		3979	692	774	2595
<b>% of daily calories</b>			17%	19%	65%

## 5000 Calories (Weight gain)

<u>Breakfast</u>	<u>Serving</u>	<u>Cal</u>	<u>ProCal</u>	<u>FatCal</u>	<u>CarbCal</u>
Scrambled Egg	3	240	72	162	12
Wheat Bread	2 slices	122	21	14	92
Banana	1	101	5	2	100
Oat meal	1 cup	145	24	18	100
Orange Juice	8 oz.	112	7	4	100
Skim Milk	12 oz.	132	53	3	75
Bagel	1	200	28	18	152
Jam	2 Tbl.	110	1	2	112
Hash Browns	1 cup	<u>355</u>	<u>19</u>	<u>163</u>	<u>180</u>
		1517	230	386	923

## **Lunch**

Turkey-light	8 oz.	149	112	30	0
Lettuce	1 pc.	2	0	0	2
Tomato	¼ med.	10	2	0	8
Lite-line cheese	3 oz.	156	88	59	7
Mustard	1 tsp.	4	1	2	1
Bagel	1	200	28	18	152
Spaghetti & meat	1 cup	332	74	105	155
Apple	1	96	0	9	96
Chocolate pudding	1 cup	310	32	72	216
Tea	12 oz.	3	0	0	3
Skim Milk	12 oz.	<u>132</u>	<u>53</u>	<u>3</u>	<u>75</u>
		1394	390	298	715

## **Dinner**

Water	12 oz.	0	0	0	0
Skim Milk	12 oz.	132	53	3	75
Steak-lean	5 oz.	300	176	108	0
Baked potatoe	2 med.	290	32	4	260
Carrots-fresh	1 cup	49	6	3	44
Peas-canned	½ cup	68	16	3	51
Dinner Roll	2	238	23	54	156
Beef noodle Soup	2 cups	<u>280</u>	<u>63</u>	<u>97</u>	<u>114</u>
		1357	369	272	700

## **Snacks**

Banana	1	101	5	2	100
Fig Bars	4 cookies	210	8	36	168
Honey & Oat	2	234	16	72	134
Granola Bars					
Apple	1	96	0	9	96
Skim Milk	12 oz.	132	53	3	75

Fruit Punch Drink	12 oz.	<u>170</u>	<u>0</u>	<u>0</u>	<u>176</u>
		943	82	122	749
<b>Daily Totals</b>		5211	1071	1078	3087
<b>% of daily calories</b>			20%	21%	59%