



Sports Nutrition for the Youth & High School Athlete

For young athletes (for example: ages 7 – 12) eating a healthy, balanced diet and getting proper rest are the two most important directives to support the growth phase of athletes in this age group. Protein, carbohydrates, calcium, and iron, are particularly important for healthy bone and muscle growth. Establishing healthy eating habits is especially important at this young age. Adolescence is often the time when eating disorders are established¹. Parents that indulge their children's unbalanced diet, for example, too much fast food, sweets, or soda with high fructose corn syrup, may be setting their kids up for eating complications later on and depriving them of important nutrients to support growth. Nutritional requirements do vary by the player, but remember that growth is most important at this early stage, and growth is best supported with a diverse, balanced diet, and sufficient rest.

On the topic of food or supplements, in fact, food is the best, least expensive way to achieve proper nutrition and weight management. Supplements, on the other hand, are often not regulated by the FDA and are almost always more expensive and not as effective at providing nutrition, especially to young players. The notable exception for supplements is protein shakes – the protein in protein powder is often prepared such that it can be utilized by the body more quickly than the protein in lean meats, for example.

For young athletes, lean meats (turkey, chicken, lean beef), green vegetables, fruits (in particular bananas, oranges, and apples), milk (if not allergic), potatoes, rice, bread, and peanut butter (if not allergic) are all good examples of food that provides a balanced mix of carbohydrates, protein, calcium, and iron. The importance of calcium should not be underestimated. Calcium is best utilized when it comes from food, rather than vitamins or supplements. It is important that young athletes get enough calcium to support bone growth - Ohio State University's sports nutrition department recommends that non lactose intollerant youngsters get four servings from the milk group (milk, cheese, yogurt, cottage cheese) each day².

For older athletes that have entered puberty (for example: boys ages 13-18), muscle growth is accelerated with the onset of puberty brought about by the presence of testosterone. It is at this phase of a young athlete's development that strength training can be introduced, in addition to proper diet, and rest. Strength training, proper diet, and rest will encourage the growth of lean muscle mass. High school football weight training, in particular, can be beneficial in supporting the player's strength and weight goals. With diet and intentional strength training, weight gain of up to 15% per year is not uncommon in this phase of an athlete's life. Below are two growth chart assuming 15% annual weight

¹ <http://ehe.osu.edu/sportsnut/gennut.html>

² Ohio State Universtiy Sports Nutrition: <http://ehe.osu.edu/sportsnut/gennut.html>



growth and approximately 1 inch of height growth per year and 10% weight growth per year. Note that these weight growth and height growth assumptions may not be achieved every year.

Example Growth chart assuming approximately 15% annual weight growth & approximately 1 inch per year of height growth

Height and weight at beginning of 9th grade		Height and weight at beginning of 10th grade		Height and weight at beginning of 11th grade		Height and weight at beginning of 12th grade	
5'6"	135	5'7"	155	5'8"	179	5'9"	205
5'8"	140	5'9"	161	5'10"	185	5'11"	213
5'10"	150	5'11"	173	6'0"	198	6'1"	228
6'0"	160	6'1"	184	6'2"	212	6'3"	243
6'2"	170	6'3"	196	6'4"	225	6'5"	259
6'4"	180	6'5"	207	6'5"	238	6'6"	274


Tips for gaining lean muscle mass³:

- ❖ **Lift weights and condition with a sense of urgency – do not just go through the motions, do your best – lift hard, run hard, work hard. Attend every workout – don't skip workouts. Learn to get comfortable being uncomfortable during workouts – push yourself to do your best**
- ❖ **Never skip meals.** Yes, this means you need to get up in time for breakfast, you can't skip lunch, and dinner actually needs to be prepared and eaten.
- ❖ **Eat at least five times per day – Three meals and two snacks**
 - **Eat two snacks every day.** Mid-afternoon and evening. In order to gain weight you need to fuel your body at regular times.
- ❖ **Drink caloric beverages.** Choose milk, 100% fruit juice, or sports drinks when available.
- ❖ **Choose calorie-dense foods.** That means eating potatoes, corn or peas instead of celery and carrot sticks. Or choosing a banana or cranberry juice instead of an apple or orange juice. Granola cereal is more calorie-dense than puffed rice
- ❖ **Eat more when you can.** Take seconds and thirds when possible if you are trying to gain weight.
- ❖ **Eat protein throughout the day.** Players should not count more than 30 grams of protein in one sitting of whole food. For example a huge steak that has 100 grams of protein cannot be counted as 100 grams toward their total number for the day; only 30 of it may be counted. Players should never go more than 2-3 hours without having some source of protein.
- ❖ **Protein shakes are OK.** If drinking a 100 gram protein shake only 50 grams can be counted during one sitting because its predigested protein that can be utilized immediately. But a player may not eat the food and shake in the one sitting and count it all...it's one or the other.
- ❖ **Eat as many carbs as you want.** Players can eat as many carbs as they wish in one sitting because carbs are much easier to digest and can be stored, whereas whole food protein cannot be stored and is more difficult to digest.

³ University of Washington Strength and Conditioning



Example growth chart assuming 10% weight growth with recommended calories, carb, and protein targets

 Weight at start of Frosh year	Weight at start of Soph year	Weight at start of Junior year	Weight at start of Senior year	Example Target Calories per day	Example Target Carb grams per day	Example Target protein grams per day	
Player weighing 110 lbs to start	110	121	133	146	3400	600	130
Player weighing 130 lbs to start	130	143	157	173	4200	740	150
Player weighing 150 lbs to start	150	165	182	200	4300	760	165
Player weighing 170 lbs to start	170	187	206	226	4400	790	170
Player weighing 190 lbs to start	190	209	230	253	4500	800	180

Below are some example meal plans for athletes that would like to gain weight, tailored to a typical high school schedule, based on caloric targets. It's important that athletes eat every 3 to 4 hours.

Example 4500 Calorie Meal Plan, tailored to a typical school day and practice schedule

6:30 AM	Breakfast	2 frozen waffles (Nutrigrain) or 1 PB & banana sandwich or 2 bowls cereal 2 Tablespoons Peanut Butter (if eating frozen waffles) 1 Banana 2 cups milk and/or 1 cup yogurt
9:00 AM	Snack	peanut butter and jelly sandwich or protein bar + water
11:30 AM	Lunch	1 Footlong Sub Turkey and Cheese or Two Chicken Sandwiches 1 piece of fresh fruit 2 cups of juice or milk &/or 1 protein bar
2:30 PM	Snack prior to Practice	1 protein bar or ½ PB & banana sandwich 1 piece of fruit (orange, apple, banana) At least 2 cups water, sports drink or milk
2:30-5:30 PM	Practice/Workout	6-7 cups of water or sports drink
5:30 PM	Post practice snack	Protein bar or PB & J sandwich and/or banana, orange
7:00 PM	Dinner	6-7oz of grilled steak/chicken / fish / ground beef (extra lean) spaghetti 1 baked potato w 1t. butter or 1 large tortilla 1 cup of broccoli, carrots, corn, or beans Salad with dressing 1 wheat roll 2 cups of milk or sports drink
9:00 PM	Snack	1 peanut butter and jelly sandwich or ½ PB & banana sandwich 1 cup low-fat yogurt &/or 1 cup of milk



Example 3500 Calorie Meal Plan, tailored to typical school day and practice

6:30 AM	Breakfast	2 cup oatmeal with 1 cup of low fat yogurt, or 1 Tbsp brown sugar, Banana 1 cup milk
9:00 AM	Snack	1 protein bar, 1 PB&J sandwich, and/or fresh fruit
11:30 AM	Lunch	1 Turkey/Ham sandwich with mayo 1 piece of fresh fruit (banana) 1 cup of sports drink, juice, or milk 1 cookie or sports bar
2:30 PM	Snack prior to Practice	1 protein bar or ½ PB&J sandwich 1 piece of fruit (orange, apple, banana) 1 cup sports drink or milk
2:30-5:30 PM	Practice/Workout	6-7 cups of water or sports drink
5:30 PM	Post practice snack	protein bar, PB & J sandwich, and/or banana, orange
7:00 PM	Dinner	4-5oz (lg deck of cards) of grilled chicken, steak, or extra lean hamburger 1 cup rice or pasta or 1 medium sized tortilla or 2 small tortillas 1 cup of broccoli, corn, carrots, or beans Salad with dressing 1 wheat roll w/butter 1 cup of milk or sports drink
9:00 PM	Snack	6 to 8 Triscuits or 2 graham crackers with 1 tablespoon of peanut butter Fresh fruit & 1 cup milk

Parents often ask what can be done to give their player the best chance to secure a D1 football scholarship. In fact, less than 1% of all high school football players are offered a scholarship to play football at a Division 1 program. (The percentage of players that play at Division 2 and Division 3 programs is somewhat better but still relatively small). That said, college coaches are generally looking for players that are relatively big, fast, athletic, and have the ability to graduate from college. Regarding optimal size and weight by position, there are some height and weight ***guidelines*** that some colleges use (see below). However, there are always exceptions to these guidelines. Nearly every collegiate team has productive players that may not meet the height and/or weight guidelines. Accordingly, the table below should be used as a general guideline only.



Suggested weight chart by position (assumes athlete retains athleticism at all weights)

Height=> Position	5'11"	6'0"	6'1"	6'2"	6'3"	6'4"	6'5"	6'6"	6'7"
OT, DT	210-220	220-240	230-250	240-260	245-265	255-265	260-280	265-290	270-295
TE, DE	205-220	210-225	215-230	220-235	225-240	230-250	235-255	240-260	250-260
OG, C, NG	220-230	220-240	230-250	240-260	245-265	255-265	260-280	265-285	270-295
QB	180-190	190-205	195-210	200-215	210-220	220-235		235-245	
WR, DB	185-200	190-205	195-210	200-215	205-220	215-225	220-230		
RB, LB	200-210	205-215	210-220	215-230	225-235	230-250	235-255		



❖ **Green** indicates optimal D1 football recruit height and weight for a given position

Summary

For younger players: eating a healthy, balanced diet and getting proper rest are vital to support the growth phase of young bodies. Weight gain, carbo loading, muscle growth, and other considerations are not important objectives during this phase of a young athlete's life. Rather, eating a balanced diet, getting proper rest, and getting proper hydration will provide the best conditions to allow the player to achieve his full height and weight potential.

For older players, strength training with intent and discipline, proper diet, and rest are necessary to achieve full potential. Lifting and conditioning with discipline, eating well (and eating often throughout the day – target 5 times per day), and getting the necessary rest will provide the best chances for the athlete to reach his full potential and will increase his chances of playing at the next level.

The Football Academy wishes all athletes and coaches success as they pursue their goals.

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