Nutrition and the young athlete
From: Sportwise: An Essential Guide for Young Athletes, Parents, and Coaches

Vigorous exercise demands nothing extra except increased energy, which can be derived from the familiar four food groups, and more water.

If the child eats a well balanced diet he/she does not need protein shakes and extra supplements.

The essential daily nutrition for the child athlete can be achieved through:
1. Two servings from the high-protein food groups, such as meat, fish, chicken, turkey, or beans.
2. Two servings from the dairy food group: milk, cheese, yogurt, or ice cream.
3. Four servings from the grain food: bread and cereal.
4. Four servings from the fruit and vegetable group.

These twelve servings provide only 1200 to 1500 calories, but they provide a firm foundation for healthy sports participation by the young athlete.

A direct result of undernourishment is fatigue and, consequently, injuries. To ensure that your youngster is getting enough nourishment for sports, he should be weighed at least once a week. Any dramatic weight loss is a sign that his food consumption isn’t keeping up with his energy expenditure.

Eating regular meals three to four times a day is the surest way to get the energy necessary for sports training and competition. Make sure your child has breakfast before leaving for school and encourage her to eat the school lunch. If necessary, provide a box lunch.

At this very moment, as many as a quarter of a million young American males may be deliberately starving themselves in order to make weight in wrestling. Undernourishment, dehydration, anorexia, and bulimia are just a few of the unnecessary occupational hazards of sports such as wrestling, gymnastics, figure skating, and ballet, in which athletes try to control their weight. In the short term, these practices may interfere with normal growth and development. In the long term they may impair basic health.

Bulking up is a practice almost exclusively of high school or junior high football players. They think that gorging on cola, French fries, and vitamin and protein supplements will guarantee them a ticket to the Super Bowl or at least a place on the first string.

Weight that is gained without proper training is usually fat rather than muscle.

Safe and beneficial weight losses can be achieved by increasing your energy expenditure and reducing calorie intake, thereby decreasing body fat while maintaining or increasing muscle mass. This should be done very gradually. A high school boy should lose no more than two pounds a week, and a girl no more than three. Crash diets hinder the normal growth process and lower muscle mass.

Short-term glycogen loading, or carbo-loading, as it’s better known, is the practice of manipulating diet and exercise to increase glycogen stores in the muscles.
Obese child athletes are predisposed to certain injuries of the knee and hip. Diseases such as hypertension, diabetes, and cardiovascular conditions appear to get started more easily in the obese child. These youngsters are also more likely to suffer from heat exhaustion.

As for diet, calorie-restricted diets for children can be dangerous, especially those dipping below 1200 calories per day. A physician should closely monitor any diet dipping below 1200 calories. Remember that diets should not be short term forced restriction of calories but rather a permanent change in the pattern of eating.

Young women active in sports and fitness may have specific nutritional problems. Recent studies have found calcium and vitamin deficiencies in young female athletes who are training so hard that their menstrual periods have stopped. These young women have significantly lower bone mineral density and are therefore much more likely to sustain overuse injuries, especially stress fractures.

The pregame meal cannot improve performance, but it should compliment the daily diet. However, the pregame meal certainly can hinder performance. That steak, for example, is a high fat item that takes five or six hours to digest. If eaten two to three hours before the contest, as most pregame meals are, it will just lie in the child’s stomach during competition.

More appropriate is a meal that can be prepared easily on game day and that the child can take along to the field. Such a meal could include fruit juice, chicken, sandwiches, jello, and cookies, which two and half hours before the game. Other easily digestible high carbohydrate, low-fat foods are cereal (eaten with low-fat milk), crackers, broth-style soups, vegetables, and yogurt, though admittedly, it is more difficult to persuade kids to eat these foods.

Eating sweets and sugary foods before exercise can actually hinder performance. The body produces insulin to carry sugar from the blood to the muscles. Exercise, like insulin, speeds the transport of sugar into the muscles. The combined effect of insulin and exercise may cause the child’s blood sugar level to plummet and the child to become hypoglycemic and feel light-headed, shaky, and uncoordinated.

Of course, child athletes must drink plenty of water before and during exercise to avoid dehydration. Our thirst mechanism doesn’t tell us soon enough when our bodies need water.

First, the chemical reactions that produce energy to make our muscles work require water. Second, the water is our body’s transport system for oxygen, nutrients, and body wastes, enabling us to exercise vigorously. Most important, it is water in the blood that transports the heat generated by vigorous exercise to the skin surface, where it can dissipate efficiently as sweat. This is especially true for children, who don’t produce sweat as efficiently as adults and are therefore more susceptible to heat cramps, heat exhaustion and heat stroke.

After strenuous exercise the young athlete’s diet should continue to emphasize high carbohydrate foods to replace depleted muscle sugar (glycogen), which is essential for energy. Only carbohydrates will rapidly replace the glycogen. Potatoes or pasta, for example, are better than steak for recovering from vigorous exercise.