



### ***Division of Sports Medicine***

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## ***NUTRITIONAL ABUSE***

The frequent over-emphasis on winning in sports may drive some young athletes to abuse their nutritional status, often with dangerous consequences. Taking steroids is the most blatant form of this abuse, but nutritional abuse is almost as serious. Some athletes starve themselves to "make weight" to qualify for a particular weight category or to make themselves look more attractive for sports where physical appearance is considered important (such as figure skating, gymnastics, or ballet). Other times, athletes overeat in order to "bulk up" to become a more imposing physical presence. For adults these practices are ill-advised, but for young athletes they can have disastrous consequences.

As many as a quarter million young American males starve themselves every year 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 frequently done by high school or junior high football players. They think that gorging on cola, French fries and protein supplements will make them more effective on the field of play. Without nutritional counseling, the practice of bulking up is not only useless but dangerous. Weight that is gained without proper training is usually fat rather than muscle. Most often the dangerous practices of bulking up result in obesity and its associated problems.

### ***SAFELY BULKING UP FOR SPORTS***

There are safe and sensible ways for young athletes to bulk up:

- 1) ***Eat consistently.*** Every day, eat three hearty meals plus 1-2 additional snacks. Do not skip any meals.
- 2) ***Eat larger portions than normal.*** Instead of having one sandwich for lunch, have two. Have a taller glass of milk, a bigger bowl of cereal or a larger piece of fruit.
- 3) ***Select higher calorie foods.*** Read food labels to determine which foods have more calories than an equally enjoyable counterpart. For example, 8 oz of cranapple juice has more calories (170) than 8 oz of orange juice (110); a cup of split pea soup has more calories (130) than a cup of vegetable soup (80).

- 4) **Drink plenty of juice and milk.** Beverages are a simple way to increase calorie intake. Instead of drinking water, quench thirst with calorie-laden fluids. One high school soccer player gained 13 lbs over the summer simply by adding six glasses of cranapple juice (about 1,000 kCal) to his standard daily diet.
- 5) **Do resistance exercises.** Push-ups, free weights and Nautilus-type machines stimulate muscle development, so that the athlete will **bulk up**, not **fatten up**. Athletes concerned that exercise will result in weight loss rather than gain should remember that vigorous exercise tends to stimulate appetite, so they will eat more and thereby gain even more weight.

Extra exercise, not extra protein, is the key to increased muscular development. Expensive protein drinks are effective only because they contain additional calories. These calories can be obtained much less expensively simply by substituting high-calorie conventional supermarket foods for others of low caloric value.

Unfortunately, some coaches condone and sometimes even encourage nutritional abuse. Coaches need to be properly educated as to the serious consequences of making weight and bulking up. Mandatory certification would ensure that all youth coaches know of the dangerous effects of nutritional abuse. Until all coaches are certified, it is up to parents to be vigilant in this area.

These warnings should not detract from the justifiable desire of serious adolescent athletes to improve their sports performance by losing or gaining weight. Many young athletes wish to lower their body fat content and increase their lean body mass. Safe and beneficial weight losses can be achieved by increasing energy expenditure and lowering calorie intake, thereby decreasing body fat while maintaining or increasing muscle mass. This should be done 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.

There is also nothing wrong in principle with a young athlete wanting to increase his or her weight in order to be more competitive. Moderate increases in muscle may also help prevent injury. Young athletes can gain one to one and a half pounds a week in muscle mass by adding a small extra meal to the daily diet and undertaking several hourly sessions of weight training a week. If the athlete starts gaining body fat at the expense of lean muscle, the program should be modified.

***KEEP IN MIND: any special diet for a young athlete should be prescribed by a health professional and closely monitored by parents, the family physician, coaches and, where relevant, school health officers.***

***The Sports Medicine Bible for Young Athletes (SourceBooks, 2002) by Dr. Lyle Micheli is a book filled with important information about how to make a young athlete's sports experience as safe and successful as possible. Visit [www.lylemichelimd.com](http://www.lylemichelimd.com).***

This fact sheet was created by Dr. Lyle Micheli and the faculty of the Division of Sports Medicine at Children's Hospital Boston.