

Bulking Up: Helping Clients Gain Weight Healthfully

by Nancy Clark, M.S., R.D., FACSM, FADA

Learning Objective

To advise thin people on how to healthfully gain desired weight.

Key words: Gain Weight, Build Muscle, Body Image, Sports Nutrition, Overfeeding.

For most Americans, gaining weight is undesirably easy—as noted by the current obesity epidemic. But for an estimated 17% to 37% of adolescent males who want to bulk up (1) and some thin casual and competitive athletes, gaining weight is undesirably difficult, a hard-fought battle. Football players, hockey players, and other power athletes also commonly seek help with bulking up so that they can not only become heavier and stronger but also be better able to protect themselves from injury.

Although information on how to lose weight abounds in the popular press, professionally accepted sports nutrition information on how to healthfully gain weight is scarce. Hence, adolescents tend to eat more buttery, fatty, and fried junk foods and exercise less (to burn fewer calories). Unfortunately, these practices lead to “fattening up” more than “bulking up.” Others who want to gain weight spend a significant amount of money on high protein shakes and supplements (1).

Without question, these adolescents need professional nutrition advice to learn how to gain weight healthfully by consuming more (quality) calories than they burn off and by strengthening their muscles with resistance exercises.

Genetics

When attempting to gain weight, the athlete should first take a good look at his or her family members. Was Dad also very thin at a comparable age? Are his or her brothers and sisters equally thin? Athletes from naturally thin families may have difficulty transforming their inherited physique from sylph into hulk; genetics matters. That is, a greyhound dog will never attain the physique of a St. Bernard!

Yet, thin athletes shouldn't feel helpless. With improved nutrition and regular exercise, they can enhance their

likelihood of gaining at least part of their weight goal. And with age, they may naturally gain weight. Maturity makes a difference.

Some people have difficulty gaining weight because they are simply “hard gainers.” That is, they require more energy than might be expected to gain weight. In one over-feeding study, subjects who theoretically should have gained 11 lbs during a month gained an average of only 6 lbs. They burned off some of the excess energy by generating 9% more body heat, but that accounted for only part of the discrepancy (2). Hard gainers tend to become more fidgety after overeating and expend more energy *via* nonexercise activity thermogenesis (NEAT). Hard gainers tend to have difficulty relaxing, sitting quietly, and taking it easy (3, 4).

In another over-feeding study, 200 prisoners (with no family history of obesity) volunteered to gluttonously



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Photo courtesy of the National Institute for Fitness and Sport.

over-eat and gain 20% to 25% above their normal weights. For more than half a year, they ate extravagantly and exercised minimally. Yet only 20 of the 200 managed to gain all of the weight. Of those, only two gained the weight easily, and they had an undetected family history of diabetes or obesity. One prisoner tried for 30 weeks to go from 132 to 144 lbs. He simply couldn't get any heavier (5).

Body Image

Some thin people are self-conscious about their bodies and hate their skinny image. They may even perceive themselves as being inadequate compared with their teammates and peers. In J. O'Dea's survey (1), adolescent males who gained weight reported better body image, improved attractiveness, better appearance in front of others, increased toughness, and enhanced self-esteem.

Thin people need support and assurance that a light, lean, well-skilled player can often out-perform a heavier peer who carries more weight but has less talent. While they are attempting to gain weight, they need to practice their

skills and gain peace of mind by knowing they can be good enough the way they are.

Some lean people have great difficulty seeing themselves as "good enough." That's because the perceived weight problem may be caused by body image distortion, more so than actual scrawniness. In these cases, a health care professional should determine the person's body fatness and body mass index (BMI) to determine if the person is as skinny as he or she reports and then offer appropriate feedback.

Muscle-Building Nutrients: Protein, Carbohydrates, and Calories

Most people who want to gain weight believe the best way to add mass is to eat a high protein diet. Wrong! If a high protein diet resulted in larger muscles, then everyone who has ever been on the Atkins Diet would be quite muscular. This is not the case! Yes, weight gainers do need adequate protein, but they also need extra carbohydrates and calories. Here are some guidelines to help balance these nutrients.

Adequate Protein

The estimated protein needs of an athlete who wants to bulk up are approximately 1.6 to 1.7 grams protein per kilogram body weight per day (6), approximately 110 to 115 grams protein for a 150-lb athlete. Most hungry athletes easily eat more than this in their standard meals. The excess protein is superfluous; it simply gets burned for energy or stored as fat.

Extra Carbohydrates

To fuel muscle-building resistance exercises, athletes need to eat a carbohydrate-rich sports diet. Hence, they should choose to eat a foundation of carbohydrate-rich grains, fruits, and juices at each meal. This means more oatmeal with raisins, fewer omelets; more rice, less chicken; more fruit smoothies, fewer protein shakes. While these carbohydrates themselves are unlikely to convert to muscle (or fat), they spare protein from being used for fuel and allow it to be used to build muscles.

Extra Calories

Above all else, people who want to add mass need to consume extra calories to provide the energy needed to build muscles. Without additional energy (preferably from carbohydrates), the muscles won't have the fuel needed to grow in size. Note that extra calories help non-athletes gain lean weight, even without resistance exercise. That is, when a sedentary person gains 3 lbs, approximately 1 lb is lean muscle mass (7).

Protein Supplements

Protein powders, "tiger's milk," and amino acid supplements are needless expenses when it comes to gaining

muscle weight. The reason these supplements may work for some people is because they offer additional calories above and beyond the athlete's typical intake. Four servings of a 300-calorie protein drink contributes 1,200 extra calories per day. A hungry football player could spend less when consuming the same number of calories by eating three peanut butter and jelly sandwiches and other standard supermarket foods.

Price aside, protein supplements are associated with two concerns:

1. Athletes who fill up on protein-rich foods can easily fail to consume adequate carbohydrates to fuel their muscles. They will be unable to train optimally and thus thwart their efforts to maximize their muscle-building exercise program.
2. The protein supplements may be contaminated with traces of illegal performance-enhancing substances (8). Because of unknowingly consuming contaminated high protein drinks, athletes have tested positive for illegal drugs.

To make a safe weight gain formula, an athlete can simply combine one quart of low-fat milk with one cup of milk powder and four packets of instant breakfast mix. This mixture contains approximately 1,400 calories. By drinking 8 ounces (350 calories) at each meal, the athlete should see some weight gain progress. The trick is to have the beverage ready in the refrigerator, waiting to be consumed at breakfast, lunch, dinner, and snack time.

Six Keys to Weight Gain

The following tips address the steps that thin people can take to optimize weight gain by consuming additional (healthful) calories:

1. Consistently eat three meals per day. Many thin athletes skip meals and snacks because they have “no time to eat.” Yet they report eating huge amounts of food—more than twice what their peers might eat. In some cases, this is true. But in many instances, the athlete may eat a lot when eating at one meal, but this may be simply compensating for the lack of breakfast, lunch, or snacks. Or, they may eat a lot on one day, and then the next day, compensate by eating less (9).
2. Eat larger than normal portions. Instead of having one sandwich for lunch, have two. Eat three potatoes at dinner instead of only two. Have a taller glass of milk, bigger bowl of cereal, larger piece of fruit. The obesity epidemic confirms that larger portions lead to greater food intake and weight gain (10)! Teenagers can sometimes feel embarrassed about the quantity of food they need and may curb their intake



because of social pressures. For example, one 6'6" high school basketball player thought he was “pigging out” because he would easily eat an entire large pizza by himself. The pizza had only 1,800 calories. He needed at least 2,000–2,500 calories per meal to accomplish his weight gain goals. He should have eaten another half pizza to meet those needs, but he cringed in embarrassment at that thought.

3. Eat an extra snack, such as a hefty peanut butter sandwich with a large glass of milk before bedtime. This additional meal can provide the extra calories needed to create a surplus. Mid-morning and mid-afternoon snacks can also boost caloric intake as long as they don't curb the appetite for meals. Some healthful snack choices include yogurt, peanuts, sunflower seeds, granola, hot or cold cereal, dutch pretzels, english muffins with peanut butter, vegetable pizza, bran muffins, bananas, dried fruit, oatmeal-raisin cookies, fig bars, banana bread, “microwaved” potatoes topped with cottage cheese, and whatever leftovers might be appealing.
4. Select higher calorie foods. Some foods have greater energy density than others. For example, cranberry juice has more calories per glass than orange juice. Corn has more calories than broccoli. A person can effortlessly boost caloric intake by consuming more of the higher calorie choice. The same goes for trading puffed rice for raisin bran, peaches for bananas, chicken noodle soup for split pea soup. With the help of a registered dietitian who specializes in sports nutrition, athletes can learn about calories and how to healthfully boost their intake without resorting to a high-fat diet laden with butter and ice cream. To find a local sports dietitian, use the American Dietetic Association's referral network at www.eatright.org.
5. Drink lots of juice and milk. Beverages are a simple way to increase caloric intake. Instead of drinking

HELPING CLIENTS GAIN WEIGHT

Two Sample Weight Gain Menus

Approximate Calories		Approximate Calories	
<i>Breakfast</i>			
16 oz orange juice	200	2 cups pineapple juice	280
6 pancakes	600	1 cup granola	500
1/4 cup syrup	200	1/4 cup raisins	120
1 pat margarine	50	2 cups low-fat milk	200
8 oz low-fat milk	100	1 large banana	130
Total	1,150	Total	1,230
<i>Lunch</i>			
4 slices hefty bread	400	1 7-inch pita pocket	240
1 6.5-oz can tuna	200	6-oz turkey breast	300
4 Tbsp lite mayo	150	2 Tbsp lite mayo	80
1 bowl lentil soup	250	2 cups apple juice	250
2 cups low-fat milk	200	1 cup fruit yogurt	250
2 oatmeal cookies	150	1 medium muffin	300
Total	1,350	Total	1,420
<i>Dinner</i>			
1 medium cheese pizza	1,400	1 breast chicken	300
2 cups lemonade	200	2 large potatoes	400
Total	1,600	2 pats margarine	100
		1 cup peas	100
		3 sl hearty bread	300
		2 Tbsp honey	100
		2 cups low-fat milk	200
		Total	1,500
<i>Snacks</i>			
2 slices hearty bread	200	1 large NY-style bagel	450
2 Tbsp peanut butter	200	3 oz. lowfat cheese	250
3 Tbsp jelly	150	2 cups crangrape juice	350
1-1/2 cups low-fat milk	150	Total	1,050
2 Tbsp chocolate powder	100		
Total	800		

Day's total: 4,900 calories

60% carbohydrate (745 grams)

15% protein (193 grams)

25% fat (121 grams)

Day's total: 5,200 calories

65% carbohydrate (832 grams)

15% protein (180 grams)

20% fat (123 grams)

Instead of following a pre-planned menu, the simpler way to boost calories is for the athlete to look at what he or she is typically eating and then add larger portions

	<i>Typical intake calories</i>	<i>Calorie booster</i>	<i>Added calories</i>
Breakfast	1 bagel	Another bagel	+300
	2 Tbsp peanut butter	Another 2 tbsp PB	+200
	1 glass orange juice	Another glass of OJ	+100
Lunch	One sandwich	Another half sandwich	+200
	8 ounces of milk	Another 8 ounces of milk	+100
	One cookie	A second cookie	+100
Snack	Nothing	Granola Bar	+200
		Cranapple juice	+200
Dinner	A big meal	No appetite for more!	
		Total additional calories:	+1,400

The trick to gaining weight is to consistently eat larger than normal portions, three meals per day, plus at least one or two snacks. These sample menus suggest healthful high-calorie, carbohydrate-rich sports meals.

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primarily water, instruct the athlete to quench thirst with calorie-containing fluids. One high school soccer player gained 13 lbs over the summer by simply drinking less water and replacing it with six glasses of cran-apple juice (approximately 1,000 calories) to his standard daily diet.

6. Do resistance exercises that focus on increasing strength and hypertrophy. In addition to eating more calories, athletes need to add on muscle-building exercise three times per week to stimulate muscular development and help convert the calories into brawn rather than flab. By doing regular workouts, they should notice an increase in the size of their muscles. An untrained person might gain 3 lbs per month under optimal diet and exercise conditions. A trained person can expect less muscle gain (11).

Proceed With Caution!

To consistently overeat larger portions is difficult; the desire is thwarted by satiety signals that regulate appetite. That is, the eater has to override physiologic signals that terminate the desire to eat, as well as signals from the adipose tissue that assist with weight regulation (10). Overeating on one day may be easy, but to repeatedly overeat day after day may be very difficult. And in the long run, the buff athlete may become an overweight adult, so health/fitness professionals need to be cautious about encouraging adolescents to force-feed themselves high-fat foods. These athletes may be better off in the long run working on their skills and natural athletic talents and letting nature take its course.



Nancy Clark, M.S., R.D., FACSM, FADA, is a sports dietitian in private practice at Healthworks Fitness Center in Chestnut Hill, Massachusetts. She counsels both casual exercisers and competitive athletes. She is the author of the best-selling Nancy Clark's Sports Nutrition Guidebook,

Third Edition (Human Kinetics, 2003), as well as her Food Guide for Marathoners and The Cyclist's Food Guide: Fueling for the Distance (www.nancyclarkrd.com).

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Condensed Version and Bottom Line

People who want to gain weight need to
 1) consistently eat larger meals and snacks that contribute to consuming at least 500 or more calories per day above their typical food intake and 2) regularly lift weights or do other strengthening exercises.