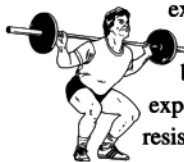




## “MUSCLE BUILDER” SUPPLEMENTS

### TRAIN HARD

Follow a strenuous resistance training program under the guidance of an expert coach or personal trainer. Depending on your training experience, you may need to begin by lifting relatively light loads for many repetitions before building up to heavier loads and few repetitions. An experienced supervisor can help determine what type of resistance training schedule is appropriate for you and can reduce the risk that you will injure yourself by lifting too much too soon.



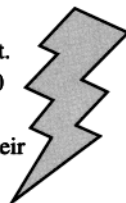
### FOLLOW A SOUND DIET

Eat a regular diet that contains sufficient energy (calories), protein, and carbohydrate, with the balance containing mostly unsaturated fat. Consult a nutritionist or a dietitian to make certain you are choosing foods wisely.



### Energy:

To gain one pound of body mass each week, consume about 500 calories each day above and beyond the amount of calories that allows you to maintain a stable body weight. If you want to gain two pounds per week, consume 1000 extra calories each day. Most athletes can consume this much extra energy simply by eating larger portions of their normal diets, but some find that it is easier if they supplement their normal foods with energy-dense protein/carbohydrate "weight gainer" products or meal-replacement drinks. Remember, if you don't train hard, extra energy intake will eventually show up as extra body fat!



### Protein:

Consume 1.0-1.25 grams of protein per pound of body weight (2.0-2.5 g/kg) on a daily basis. This protein can come from normal foods.



Most athletes do not require protein supplements for optimal muscle growth

### Carbohydrate:

Every day, eat about 3.5-4.5 grams of carbohydrate per pound of body weight (8-10 g/kg). Emphasize cereals, fruits and vegetables as carbohydrate sources because they contain more nutrients than do sugars and sweets. Carbohydrate-rich foods tend to be very bulky, so if you have diffi-



culty consuming this much carbohydrate in normal foods, you may wish to supplement your normal diet with high-carbohydrate energy drinks or energy bars.

### Fat:

Consume about 0.2-0.4 grams of fat per pound (0.45-0.9 g/kg) of body weight per day. Most of this fat should come from unsaturated sources (e.g., olive, canola, and flax oils).

### DON'T EXPECT MIRACLES

Although muscle size may increase substantially in the first few months of a sound program of training and nutrition, eventually the gains in muscle mass will slow down. This is normal. You should expect to gain muscle mass gradually over years of hard training and good nutrition. There is no quick and easy way to get big and strong.

### DON'T RELY ON DIETARY SUPPLEMENTS

Don't fall into the trap of spending lots of money on various "muscle builder" supplements in hopes of finding an easy road to greater muscle mass. There is no substitute for rigorous resistance training and good overall nutrition. Hundreds of supplements are marketed as muscle builders, and almost all of them have no effect whatsoever on muscle mass. Those few supplements that are supported by scientific research are noticeably effective mostly in elite athletes who have undergone many years of training. For non-elite athletes, the effects are usually trivial when compared to the much greater effects of sound training and sound overall nutrition. Furthermore, some supplements have the potential to cause serious side effects.



### IF YOU ARE CONSIDERING SUPPLEMENTS, CONSULT EXPERTS

Highly trained athletes who are considering the use of dietary supplements should consult regularly with a knowledgeable exercise physiologist, with a sports medicine physician who is familiar with dietary supplements and with a competent sports nutritionist or sports dietitian. Don't rely on clerks at the health food store, magazine ads, the Internet, or gym rats. Stay alert for adverse side effects.

