

Get The Facts: How to Build Muscle

Facts (not alternate):

Most people who aim to lose fat as their fitness goal also want to increase their muscle mass. People want to "have a butt" or "get big" but their workout routine doesn't always match that goal. Muscle growth is a complex beast that is still not fully understood but we have identified a few key principles. There are three main ways to induce muscle growth from strength training: mechanical tearing from a large load on the fibers, ischemia or lack of oxygen to the tissue under anaerobic conditions, and metabolite accumulation or the formation of products like lactic acid. Basically any style of exercise can encompass these features, but how do you maximize your goals?

One major component is diet (of course). To build anything (muscle or fat) there has to be extra materials to create the new stuff. There have been studies looking at muscle growth on very low calorie diets in significantly obese individuals which did show muscle growth and fat loss, but this is a different process. Initially exercising with resistance training and diet may yield muscle growth and fat loss but it is a transient phenomenon that occurs in unconditioned populations (known as the newbie effect). In general, increasing the amount you eat will increase the amount you gain. I will focus on the training aspect in this article rather than what and how to eat.

The next step is the actual workout routine. This is a highly debated topic. Ideas range from high weights at low reps to low weights at high reps and anything in between. In a meta analysis in 2010 of single vs multiple sets for optimal muscle growth, Krieger found a dose dependent response of number of sets to amount of muscle growth. Unfortunately there are many other variables unable to be accounted for such as types of exercise, diet, intensity of the weight, etc.

There are a plethora of parameters studied regarding maximum muscle growth but the few that have shown evidence of application are rest period, overload, and rep range. Thinking about the factors mentioned previously, the amount of rest needed for maximal muscle building seems intuitive. The more ischemia and metabolite accumulation, the more heavily the muscle is stimulated to grow. Therefore, less rest is best for size. On the other hand, if strength is the goal, the less lactate and oxygen, the worse the performance of the muscle, requiring more rest. The exact times are not known but this works as a general rule. Overload principle states that stress facilitates adaptation and increasing stress will increase muscle performance. This applies as you progress. Keep increasing the weight as you go to keep the workouts as hard as they were on day one. Lastly, and most controversial, is sets and reps. According to an extensive review by Alan Aragon, repetition schemes ranging from 3 – 15 reps per set shows significant increase in hypertrophy with weights at 60-85% of the individual's maximum strength.

Conclusion:

If you are looking to start working out for size or increasing muscle mass, begin with exercises that stress the muscles without eliminating too many calories (i.e. aerobic exercise). Make sure to increase the weight as you get better to keep stressing the muscles. Don't worry too much about the sets and reps, just do what you can and make sure to keep it at a level that is difficult to you. Reaching failure on your final sets is a good indication of how much load you need. Remember that there is no magic online workout program and that the best program you can find is one that you tailor to your needs, and personality.

References:

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Article by: Adam Heilmann, M2