

Body Composition Explained

"Lose 30 pounds in 30 days!" We've all seen advertisements that make this and similar claims. Even if you were to lose those 30 pounds in 30 days, it's important to ask the question, "*30 pounds of what?*"

You may be asking yourself, "What difference does it make, if I weigh 30 pounds less, I'm going to look better, feel better, be better - right?" Well, maybe, but for how long? If most of the weight lost is water then those pounds come back very quickly. But what is even worse is when some of your muscle is lost as part of those 30 pounds.

The muscles in your body are the largest consumers of calories you have; think of them as furnaces that are constantly burning the calories you eat. If you decrease the amount of muscle in your body, you decrease your ability to burn calories. When you resume your normal eating habits your body is even less able to consume the calories eaten, and as a result the weight returns and you end up weighing even more than before. Every time you go on a diet or use a "weight-loss" product that decreases muscle, you end up losing some of your ability to burn calories.

Conversely, if you increase the muscles in your body, your ability to burn calories improves. In every activity you engage in - work, play, even sleeping - you would burn a greater number of calories. If you then pair this increased ability to burn calories with even a small decrease in calorie intake, it's easy to see how these two behavior actions work together to produce long-lasting results.

Body Fat and Lean Body Mass

In terms of body composition, the body is divided into two components - body fat and everything else. That everything else is called "Lean Body Mass" (LBM). and includes, among other things, internal organs, skin, bones, blood, water, and most importantly, muscle.

If we can find out how much the fat on our bodies weighs, we know the rest of our weight consists of LBM. From week to week, the weight of your internal organs, skin, bones, and blood doesn't vary much. But two components can change quite a bit over even a short amount of time: the amount of water in our body and the amount of muscle we have. When you reduce or eliminate variances in water weight, you are able to tell when muscle increases or decreases. You would actually be able to see how your body is reacting to your fitness efforts. Ideally, you'd see an increase in LBM (muscle) and a decrease in body fat. But a loss in LBM indicates that you're probably losing muscle and need to do something different.

Knowing how your body composition is changing in relation to your fitness efforts is a key piece of information - information that will help you make the adjustments in your fitness program that are best for you. Our [Body Composition Calculator](#) gives you this vital information. You only need a non-stretching tape measure and bathroom scales.

Getting the Most From the Body Composition Calculator

If one of your primary goals is weight control, we recommend that you use the Body Composition Calculator once a week. If you're in maintenance mode or your primary goals are more geared to cardio-fitness or performance, use the Body Composition Calculator once a month. Choose a morning when it's convenient to spend 5 to 10 minutes taking your measurements - preferably a non-work day. Establish a routine that includes the following:

- Use the restroom prior to measuring. For some people, it's possible measurements could be affected by the contents of the bladder or bowels.
- Measure prior to eating and/or drinking. These activities can, for some individuals, change the abdominal measurements and the weight readings.

- Measure prior to bathing/showering. For some people, these activities relax the muscle tone of the abdomen and skew the measurements.
- Measure prior to exercising. A few stretches probably won't change any of the measurements, but aerobic or strength exercises that produce perspiration can change your weight and muscle tone.
- Always follow the same routine. Making changes in your routine or in how you take your measurements can decrease the repeatability of your results.

Remember, your main interest is to find out how your body is changing in response to your fitness behavior. This is why you want to establish a routine that you can repeat each time you take your measurements and reduce any variations to that routine. This will allow you to see how your Body Composition is changing more accurately.

What the Numbers Mean

Percent Body Fat is the fundamental measurement used in describing body composition. It indicates what percentage of your weight consists of body fat. If you weigh 100 lbs. and you have 25% body fat, you have 25 lbs. of body fat and 75 lbs. of LBM.

The amount of body fat you carry affects your life and health in a variety of ways. Carrying excess body fat is a risk factor for several diseases, most notably diabetes and coronary heart diseases. It also affects how you feel and how much you are able to enjoy activity. Having too little body fat also increases health risk; there is a certain amount of body fat that is considered "essential." The tables at the bottom of the Body Composition Calculator show an age and gender specific breakdown of body fat percentages. Healthy percentages fall into the Moderate, Low, and Very Low norms. Unhealthy percentages are anything below the Very Low or above the Moderate norms.

Lean Body Mass Weight and **Body Fat Weight** tell you specifically what your body is doing in response to your fitness related behavior. You can actually see, over time, whether you are gaining, losing, or maintaining LBM. You can see how many pounds of fat you've dropped and how your Exercise Rx is affecting your body composition. If you looked at the bathroom scale only, you might be discouraged when you see you've only lost one pound during the last week. But think how much better it is when you see that you dropped two pounds of fat and gained a pound of LBM! That's a pound of calorie-consuming muscle!

Waist-to-Hip Ratio gives an indication of where your body fat lives. If your body fat lives primarily around your abdomen, you may be at increased risk for early onset cardiovascular disease, high blood pressure, diabetes, and certain types of cancer. The ratio for women should not be above .90 and the ratio for men should not be above 1.0.

Basal Metabolic Rate (BMR) is an estimate of the number of calories (kcal) that your body burns just to stay alive. Keeping your heart pumping, maintaining and building muscle, breathing, operating your brain, and all the other functions necessary to sustain life require energy. BMR is an estimate of how much energy, expressed in calories, your body uses to maintain these functions. Most of this energy is expended by parts of your body that make up your Lean Body Mass. Therefore, as LBM increases, so does your BMR. This, of course, is what you would like to have happen. However, if you lose LBM, your BMR will decrease and your body will be burning fewer calories. This is what you want to avoid.

Total Daily Energy Expenditure (TDEE) is an estimate of the average number of calories (kcal) your body burns per day based on your BMR and your Activity Level. As your BMR goes up, your TDEE goes up proportionally. Likewise, as you increase your Activity Level, your TDEE will increase also. Consuming fewer calories than your TDEE will result in a weight loss - consuming more calories than your TDEE will result in a weight gain.

Make Informed Decisions

For Weight Loss - If one of your primary goals is to lose weight (lose body fat) then keep a very close eye on your LBM weight. Try to make sure this number goes up or at least doesn't go down. If it does go down, make the following adjustments to what you are doing:

- *If you are dieting* - the diet you are on may be causing you to lose muscle and/or water. Explore the possibilities that a small change in the diet will improve the situation. If this seems unlikely or if after several weeks you find you are still dropping LBM, consider a different weight-loss strategy.
- *If you are exercising* - you are probably over-exercising. If you are exercising on a regular basis and your LBM weight is dropping, you may not be allowing enough recovery time between workouts for your body to repair and build up muscle. Either give yourself more recovery time (decrease frequency) or cut back on the intensity of your workout.
- *If you are dieting and exercising* - ask yourself which is the more likely cause of decreasing LBM weight: your diet or over-exercising. Your body responds to exercise by rebuilding the muscles used in exercise and then building a little extra. If it doesn't have the materials needed to build muscle (a balanced diet) or enough time to do the job (recovery time) you will lose LBM weight. Pick your prime suspect and make adjustments. Keep tracking LBM weight and if your adjustments work - great; otherwise, look at the other suspect.

For Cardiovascular, or Maintenance Mode - When your primary concern is heart health or maintaining your current level of fitness, tracking body composition is primarily a preventative activity; you just want to check every now and then to make sure nothing unexpected is happening. Check your body composition once a month to keep an eye on it.

For Performance - Often, people who are into performance are eager to build muscle. Tracking body composition is the primary yard stick to measure progress in this area and should be done weekly.

Body composition is one of the key indicators giving you feedback on the success of your fitness program. Using it to help you make your adjustments can mean the difference between achieving long-term success or struggling with recurring failure.