

Lean Body Mass and Muscle Mass – What's the Difference?

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Consider the following three statements:

- “I’m not trying to get huge; I just want to put on five pounds of **lean muscle**.”
- “I gained five pounds of **lean body mass** last month.”
- “My goal is to put on five pounds of **muscle mass** before next season.”

In each one, someone wants to gain five pounds of something but is using three different terms. Are these three ways of saying the same thing? Can they be used interchangeably? Or are they different?

Most definitely different.

Let’s get one thing out of the way: “lean muscle” is a bit of a misnomer. Although there are indeed **different types of muscle**, from a biological point of view, there is no such thing as “lean muscle.” The word “lean” is usually meant to suggest the absence of fat. But here’s the truth: **all muscle is “lean muscle”**.

What about Lean Body Mass and Muscle Mass? Both of these exist. However, they are two very different parts of your **body composition**, and in order to understand your weight, health, and fitness goals properly, you’ll need to understand the differences between them. Let’s take a look below.

Lean Body Mass vs. Muscle Mass

Lean Body Mass (also sometimes known as simply “lean mass,” likely the source of the word “lean muscle”) is the total weight of your body minus all the weight due to your fat mass. It includes the weight of all your organs, your skin, your bones, your body water, and your muscles.

Unlike lean muscle, Lean Body Mass uses the word “lean” correctly as it describes the entire weight of your body without the weight due to fat. This is why it is also referred to in some circles as “Fat-Free Mass.”

Because your Lean Body Mass is made up of so many parts, any change in the weight of any of these can be recorded as changes in Lean Body Mass. However, the weight of your organs isn’t going to change much, and although your bone density can change over time, it isn’t going to affect the weight of your Lean Body Mass too significantly. What **can** significantly influence your Lean Body Mass is the second type of mass in question: muscle mass.

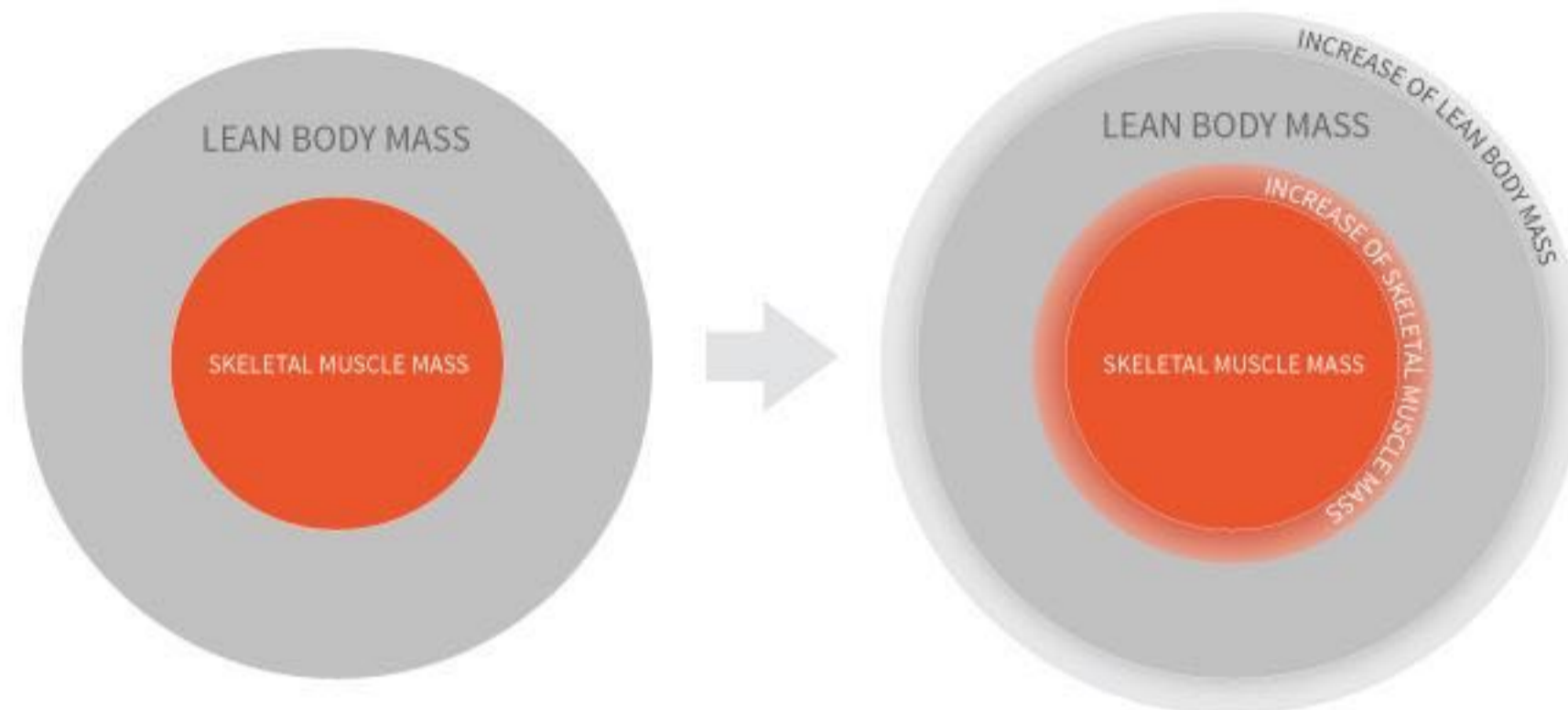
When people talk about gaining muscle or building their “muscle mass”, what they’re really talking about is gaining or building their **Skeletal Muscle Mass**. This is because of the three major muscle types – cardiac, smooth, and skeletal – skeletal muscle mass is the only type of muscle that you can actively grow and develop through proper exercise and nutrition.

Skeletal Muscle Mass is indeed a different type of mass from your Lean Body Mass. However, Skeletal Muscle Mass is related to Lean Body Mass because it is **one of the parts that make up your overall Lean Body Mass**. This is why some people get confused.

Skeletal Muscle Mass is part of your Lean Body Mass, but your Lean Body Mass can be influenced by other factors outside of muscle, most notably, water. And because water is a major influencer of changes in Lean Body Mass, this poses a problem when people talk about increases in Lean Body Mass, sometimes referred to as “lean gains.”

The Problem with “Lean Gains”

When people talk about Lean Body Mass and Muscle Mass, usually the conversation revolves around building or gaining one or both of these masses. Because Skeletal Muscle Mass makes up one part of Lean Body Mass, an increase of Skeletal Muscle Mass **is also an increase of Lean Body Mass**. Some people refer to this as "gaining lean mass" or "lean gains."



However, it doesn't work the other way: an **increase of Lean Body Mass is not always an increase in muscle**.

That's because body water makes up a significant portion of your Lean Body Mass. To illustrate this point, here's a body composition analysis of a 174.1-pound male.

| Body Composition Analysis | | | | |
|---------------------------|--------|------------------|----------------|--------|
| | Values | Total Body Water | Lean Body Mass | Weight |
| Intracellular Water (lbs) | 61.7 | 98.1 | 133.6 | 174.1 |
| Extracellular Water (lbs) | 36.4 | | | |
| Dry Lean Mass (lbs) | 35.5 | | | |
| Body Fat Mass (lbs) | 40.6 | | | |

Notice how from a body composition standpoint, Lean Body Mass is made of three components, **two of which are water**. Everything else is grouped together in what's called your “Dry Lean Mass,” which includes your bone minerals, protein content, etc.

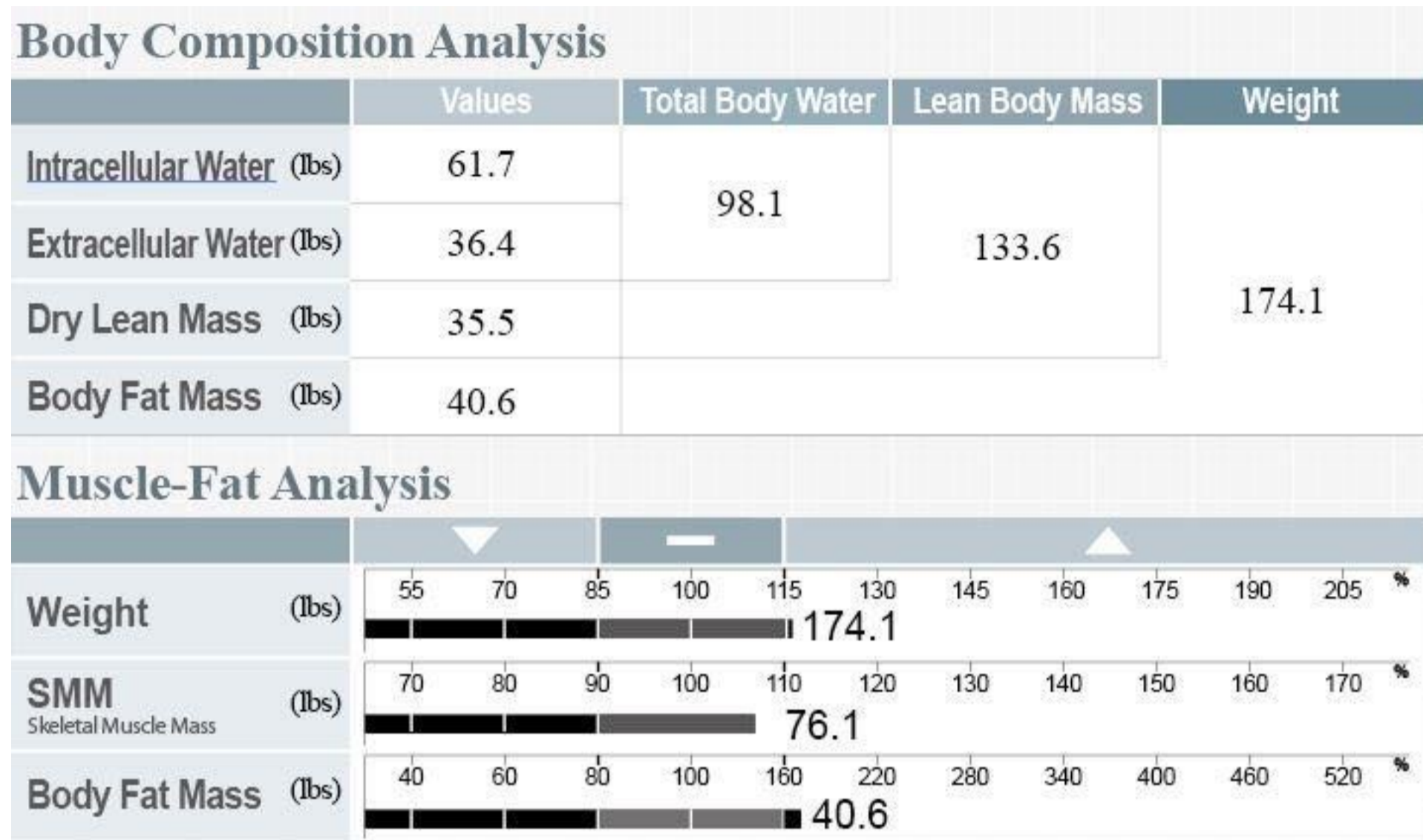
Muscle gains definitely contribute to Lean Body Mass gains, but so does water, which can fluctuate throughout the day. How much water your body is holding at any particular time directly influences your Lean Body Mass. For instance, this means that if you were to drink a significant amount of water, enough to raise your body weight by one pound, this weight would technically be a “gain” of lean mass.

It's also important to note that muscle itself contains water – a lot of it. According to the USGS, muscle can contain up to **79% water content**. Research has also shown that resistance training **promotes the increase of intracellular water** in both men and women.

All of this points to two main problems when talking about “lean gains”:

1. Lean Mass gains, when they do occur, **are largely increases in body water**
2. It's difficult to say with any certainty how much any Lean Body Mass increase is due to Skeletal Muscle Mass without using sophisticated tools

Measuring Your Lean Body Mass and Muscle Mass



Since there's a significant difference between Lean Body Mass and Skeletal Muscle Mass, how is it possible to know how much of each you have?

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- Let's start with what not to do: **do not try to use a scale to measure changes in Lean Body Mass or Skeletal Muscle Mass.** It's impossible, and anyone who, after working out for 6 months notices a 15-pound increase on the
- scale and attributes it to a 15-pound gain in muscle, is being completely misled by the numbers they see.

The problem with using a scale to measure progress is there are **so many factors** that can influence an increase in body weight, a few of which include:

- Undigested food and drink
- Water retention **due to glycogen**
- Water retention **due to sodium**

- Fat gain due to being in a caloric surplus
- There is only one way to determine changes in something such as Lean Body Mass: getting your body composition
- tested. Without testing your body composition, there will be no way to know what any gain or loss in your body weight is due to.

Most methods of body composition analysis will at the minimum divide your body into Lean Body Mass (this may be referred to as Fat-Free Mass) and Fat Mass. These methods include:

- Skinfold calipers
- Hydrostatic Weighing
- Air displacement plethysmography

Each of these has their pros and cons, and accuracy may vary depending on a number of factors unique to each testing method.

- For more in-depth body composition analysis, you would need to look to two more sophisticated methods. These are dual-energy X-ray absorptiometry (DEXA) and **bioelectrical impedance analysis (BIA).**

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So, Lean Body Mass, Muscle Mass, Lean Mass, Which Is it?

- **Lean Muscle**

You shouldn't use this term as it is misleading. All muscle is "lean muscle," and **it is a confusing mix of two real terms:** Lean Body Mass and Skeletal Muscle Mass.

Lean Body Mass (or lean mass)

This is probably the best and safest term to use to describe your gains. When you use this term, you're telling people that you have gained weight but **not gained fat**. This means that your weight has increased due to muscle and water.

However, that's all you can really say. Because of the nature of Lean Body Mass, it is very hard to say how much of the gain is due to water and how much is due to muscle (which is largely water to begin with). A gain of 5 pounds of Lean Body Mass is not 5 pounds of pure muscle, and to suggest otherwise would be misleading.

Muscle Mass (or Skeletal Muscle Mass)

Unless you have access to sophisticated tools that can differentiate between Lean Body Mass and Skeletal Muscle Mass, you shouldn't think in terms of gaining pounds of muscle mass.

Yes, it is likely true that if you're performing resistance training/weightlifting, the change in Lean Body Mass is likely due to muscle mass development, and talking about **wanting to gain muscle mass** is perfectly OK. However, things get tricky when you start putting numbers on your muscle mass gains. Everyone's body composition is different, and the proportion of your skeletal muscle mass to Lean Body Mass will not be the same as someone else's. This makes accurate estimations even harder.

It all comes down what you're able to measure. If all you are working with is a scale, then all you will ever know for sure is your weight is increasing or decreasing. If you can measure Lean Body Mass, then you'll know much more. If you can differentiate between Lean Body Mass and Skeletal Muscle Mass, when you gain five pounds of muscle, then - and only then - can you tell people that you gained five pounds of muscle with confidence.



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Max Muscle Sports Nutrition store
for an assessment to find out what
your "true" body composition looks
like.**