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THE ONLY SUPPLEMENTS YOU NEED TO GET THE BODY YOU WANT.

AN EASY AND ACCURATE WAY TO MEASURE YOUR BODY COMPOSITION



Many people mix up body composition with body fat percentage or BMI, but it's neither of these things.

Let's look at BMI first. Your BMI is calculated by dividing your weight in kilograms by your height in meters squared.

Next, there's body fat percentage, which is simply the percentage of your weight that's fat.

This brings us closer to body composition, which involves determining not just our total levels of fat, but of muscle, water, and bone as well.

There are a few different methods and models for this, but we'll stick with a simple one for the purposes of this article — one that separates our body into two distinct categories:

- ✓ Fat mass, which is all of the fat in your body.
- ✓ Fat-free mass (often referred to as FFM), which is everything in your body that isn't fat, including muscle, bone, blood, organs, water, glycogen, and more.

By monitoring these things — as opposed to BMI or just body weight — we can better understand our fitness level and the changes that occur in our bodies when we diet and exercise.

For example, let's say you follow a sensible diet and training program and your weight goes down but your fat-free mass stays the same.

Well, that's exactly what we want because it means that you've lost fat and not muscle.

If, however, you starve yourself, eat too little protein, and do an unconscionable amount of cardio, you're going to lose weight alright...but it's going to include quite a bit of muscle as well.

And that, my friends, is the easiest way to wind up "skinny fat."

The body composition model is equally relevant to gaining weight as well, because the goal isn't to merely gain weight but to gain muscle and not fat.

While it's generally true that you have to accept some fat gain to maximize muscle growth (unless you're new to weightlifting, in which case you can gain muscle and lose fat at the same time), you shouldn't be gaining fat much quicker than muscle.

HOW DO YOU MEASURE BODY COMPOSITION?

Theoretically, calculating your body composition is simple. All you have to do is measure your body fat percentage because once you know that, you can work out your total fat mass and, in turn, your fat-free mass.

Unfortunately, this is easier said than done because every method of going about it is far less accurate than most of us realize...

Body Composition Scales & Handheld Devices

Body composition scales and handheld devices are the simplest way to measure body fat percentage. They're also extremely and unreliable and inaccurate.

The reason for this lies in the method they use to analyze your body composition: bioelectrical impedance analysis (BIA).

BIA involves passing a light electrical current through your body and measuring resistance to it.

Muscle (being over 70% water) conducts electricity well, but fat (which contains a lot less water) doesn't, which is why the leaner you are, the more conductive your body is.

That being so, you should be able to correlate levels of electrical resistance with levels of body fatness.

Well, it doesn't play out like that, and here's why...

01. The method is inherently handicapped.

Electricity will take the path of least resistance through your body, which means it will bypass fat for more conductive tissues. For instance, if someone has a huge amount of subcutaneous fat, the current will avoid it and pass through internal tissue instead.

Obviously, this makes for some very inaccurate data and results.

Another one of the BIA's methodological problems is that the body fat readings are equation-based predictions, which can be totally off.

That is, the devices are using electrical currents to obtain raw data and then using math to turn it into a body fat percentage.

Here's how this works:

The BIA device's development team first measures the body fat percentage of a large group of people using a "gold standard" method of analysis.

The team then tests the same group of people with their BIA device, compares the measurements, and comes up with an equation to predict results based on variables such as height, weight, and gender.

It sounds reasonable enough, and if it went off without a hitch, it would work pretty well.

But can you guess where it falls apart in actual practice? That's right — the original benchmark method is often wildly inaccurate.

The point is this: When you calibrate inherently flawed BIA instruments with faulty yardstick measurements, the whole methodology becomes more or less useless.

02. Testing conditions can greatly influence readings.

If you're dehydrated when you BIA test yourself, it will increase electrical resistance in your body, which will cause your body fat percentage to register higher than it is.

If you BIA test after eating a large meal, electrical resistance will be lower than usual and thus you'll register leaner than you actually are. In one study, this accounted for error rates as high as 4 percentage points.

Exercise is another factor that can seriously skew BIA measurements because it improves conductivity in the body. This, in turn, leads to an overestimation of fat-free mass and underestimation of fat mass.

Body Fat Calipers & Skinfold Testing

Skinfold testing involves using calipers to measure the thickness of your skin at certain points on your body. These measurements are then added together and plugged into equations that are supposed to extrapolate how much of your body is fat-free mass and fat mass.

Unsurprisingly, there are a number of ways for this to go awry.

First, there's user error — grab too little skin and fat and you'll get a falsely low reading; grab too much and you'll end up with a number that's too high.

Then there are the equations used to convert skin thickness readings into a body fat percentage — research shows they can spit out some wonky results.

This explains the error rates for skinfold testing that we see in various clinical studies.

Pictures and the Mirror

The visual appearance of various body fat percentages can vary quite a bit depending on how much muscle people have.

For example, an average looking guy at 160 pounds and 10% body fat has about 16 pounds of fat. A muscular guy at 190 pounds and 10% body fat has only 3 pounds more fat but a whopping 27 pounds more fat-free mass.

As you can imagine, these two guys are going to look very, very different.

Pictures and the mirror are a simple way to guesstimate body fat percentage and monitor body composition.

Dual-Energy X-Ray Absorptiometry (DEXA)

DEXA involves a full-body x-ray to determine total fat and fat-free mass.

This is possible because bone and different body tissues absorb x-ray energy differently.

You've probably heard that DEXA is a foolproof method of measuring your body fat percentage, but it's not.

There are several reasons for this:

- ✓ Results can vary between machines, even if they're produced from the same manufacturer.
- ✓ Algorithms used to convert raw data into body composition measurements differ and thus outputs can differ.
- ✓ The type of x-ray used influences the results.
- ✓ Like BIA, hydration status can significantly impact DEXA results (even minor changes in the hydration levels of lean mass can be enough to skew results).
- ✓ Results are affected by gender, body size, total fat mass, and even disease state.

Thus, we shouldn't be surprised to see error rates not unlike any other method discussed in this article.

Despite its high reputation among fitness panjandrums, DEXA isn't a consistently accurate method of assessing body composition.

The Bod Pod

The Bod Pod is a machine that works similarly to hydrostatic weighing.

It measures the amount of air your body displaces inside a sealed chamber and uses equations to translate this into an analysis of body composition.

The crux of the issue with the Bod Pod is its results are affected by all kinds of things like facial hair, moisture, body temperature, and even the tightness of clothing worn inside the chamber.

Like everything else discussed so far, the Bod Pod is just too inaccurate in measuring body composition to be relied upon.

WHAT'S THE MOST ACCURATE WAY TO MEASURE BODY FAT, THEN!?

There's one way to measure your body composition with 100% accuracy, and trust me — you're not going to be up for it.

If you removed all of your fat, muscle, bones, and organs, and weighed them, you'd know your body composition with absolute certainty. And then you'd have to somehow put Humpty Dumpty back together again.

My point is everything else is just an estimation of body composition — not an exact assessment — and while some methods are better than others, none are out and away winners.

This begs a question, then:

What method do scientists use to determine the relative accuracy and inaccuracy of all these methods? That is, what's the method against which BIA, DEXA, Bod Pod, hydrostatic weighing, and skinfold is compared against?

Well, it's something known as 4-compartment analysis, and it involves using several techniques to separate the body into four "buckets":

✓ Fat mass

- ✓ Bone
- ✓ Water
- ✓ Muscle tissue

This multi-step type of analysis provides a highly accurate picture of your body composition, but — sad face — requires access to a team of well-equipped scientists.

Fortunately, there's an easier option available to us for accurately measuring and tracking our body composition...

THE EASIEST WAY TO ACCURATELY MEASURE AND TRACK BODY COMPOSITION

The easiest way to assess and track changes in your body composition requires just a few things:

- ✓ Calipers
- ✓ A scale
- ✓ A measuring tape
- ✓ A mirror

And here's what to do with them:

Weigh yourself daily and calculate an average every 7 to 10 days.

First thing in the morning each day, after using the bathroom and before eating or drinking, write down your naked weight. Then, after 7 to 10 days, add your weights up and divide the sum by the number of days. That's your average for that period.

Watch those averages over time and you'll be able to see if things are actually moving in the right direction or not.

Take weekly caliper measurements.

If your skin is getting thicker over time, you're gaining fat. If it's getting thinner, you're losing fat.

Take weekly waist measurements.

The size of your waist (measured at the belly button) is a reliable indicator of fatness. If your waist is shrinking over time, you're losing fat. If it's growing, you're gaining fat. And that's why I recommend that you note down your waist measurement weekly.

Take weekly pictures.

What you see in the mirror is, ultimately, what matters most.

If you're gaining muscle and losing fat, you're going to look better and better, regardless of what the scale or anything else says.

So, take weekly front, back, and side pictures in good, consistent lighting and, over time, your progress (or lack thereof) will be easy to see.

HOW DO YOU IMPROVE BODY COMPOSITION?

You can improve your body composition in two ways:

- ✓ Build muscle
- ✓ Lose fat (and not muscle)

That's it — those two goals encompass everything we want to achieve with our bodies (and that applies to both men and women).

In the end, all you need to do to get the body you want is build a certain amount of muscle and maintain a certain level of body fat.

How much muscle you need to gain and how low your body fat will need to be will depend on how you want to look.

Aspiring bodybuilders will need to gain anywhere from 45 to 60 pounds of muscle and be able to reduce their body fat to very low (unhealthy) levels.

The rest of us, though, don't need to go to such extremes.

I've worked with thousands of guys and gals and here's what I've learned:

- ✓ The look most guys want requires gaining about 25 pounds of muscle and being around 8 to 10% body fat.

- ✓ The look most girls want requires gaining 10 to 15 pounds of muscle and being around 18 to 20% body fat.

And anyone, regardless of genetics, "body type," or anything else, can do that.

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