

Body Fat - What's *right* for me?

There simply is no consensus for what an "ideal body weight" should be - it is actually different for every individual and is dependent on:

× Health	× Age	× Metabolism
× Musculature	× Activity	× Other factors that are not simple to measure accurately
× Body fat content & distribution	× Weight	

For these reasons, you and your physician or dietitian must decide what your *ideal weight* should be.

Below are some *guidelines* for healthy body weight:

Body Type	Female	Male
Athlete*	<17%	<10%
Lean	17-22%	10-15%
Normal	22-25%	15-18%
Above Average	25-29%	18-20%
Overweight	29-35%	20-25%
Obese	≥35%	≥25%

*Healthy male athletes might be as low as 5-12% body fat, and healthy female athletes could be as low as 10-20%.

How To Calculate Body Fat... The Best and Worst Techniques

Height-Weight Tables - *Least Reliable*

Height-weight tables are **very** limited because they simply don't calculate body fat. Many athletes for example, are much heavier than the recommendations on height-weight tables. Their frame size and muscular development contributes to their "excessive" weight. And more importantly, height-weight tables will tell you nothing about your general health status.

Body Mass Index (BMI)

BMI is best used for **risk assessment** for the *general* population. BMI **does not** calculate body fat. Compared to height-weight tables, it has a much higher association with a person's body fat. How does it work? It's a simple formula...

$$\text{BMI} = \left(\frac{\text{Weight in Pounds}}{(\text{Height in inches})^2} \right) \times 703$$

Example: 150# woman who is 5ft. 6 inches (=66 inches)

$$150 / (66 \times 66) \times 703 =$$

$$(150 / 4356) \times 703 =$$

$$.03 \times 703 = \text{BMI} = 24$$

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Body Mass Index Classifications		
Classification	Risk	BMI Score
Underweight	Moderate	less than 18.5
Normal	Very low	18.5 - 24.9
Overweight	Low	25.0 - 29.9
Obese Class 1	Moderate	30.0 - 34.9
Obese class 2	High	35.0 - 39.9
Extreme obesity	Very high	≥40.0

Again, BMI will be **inaccurate** for many athletes. **BMI doesn't calculate body fat** so it can't make allowances for muscular development. Athletes such as bodybuilders, football players, throwing athletes and anyone on a weight training program should **avoid** using BMI as a way to calculate body fat. Growing children and very elderly, sedentary adults should also avoid using BMI as a way to calculate body fat.

Waist Circumference

Waist circumference is a good indicator of your abdominal fat, which is another predictor of your risk for developing risk factors for heart disease and other diseases. Determine your waist circumference by placing a measuring tape snugly around your waist. This risk increases with a waist measurement of over 40 inches in men and over 35 inches in women

Bioelectrical Impedance Analysis... (BIA)

Digital scales aim to measure your body fat through a process called **BIA**, or bioelectrical impedance analysis. Essentially, it clocks the speed that electricity travels through you. The scale runs a low-level electric current through your body, using your hands as positive and negative electrodes. The current encounters different levels of impedance, or resistance, from fat versus muscle. The scale measures this impedance, and throws it together with other factors (age, sex, height) to come up with your BMI, or body mass index.

These formulas just **predict** your body fat. Unfortunately there is no *one* formula that accurately predicts body fat for the whole population. Differences in age, gender, ethnicity, body size, and fitness level all have a **significant** affect on the results. It is important to remember:

- ✗ The amount of water in your body, your skin temperature, and recent physical activity can all adversely affect the results.
- ✗ As long as you can accurately **monitor changes** in your body composition over time, that's all you need.

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Skinfold Measurements

Body fat calipers are just about the most cost effective way to calculate body fat.

The disadvantages:

- × For accurate results an **experienced examiner** is needed.
- × Different equations are used for different people to calculate body fat percentage from skinfolds. Choosing the wrong equation can make a world of difference.
- × It is very difficult to test yourself. You may have to ask a friend or family member - this is when skinfold testing becomes unreliable.
- × Really cheap calipers won't stay very accurate for long.

Some advantages:

- × Unlike Height-Weight tables and BMI, they actually calculate body fat percentage.
- × They are very easy to use. The hardest part is finding the right locations to pinch.
- × Used correctly they are a pretty accurate and reliable way to calculate body fat.

Hydrostatic Weighing... The gold Standard

If it's accuracy you're after, **hydrostatic** or **underwater weighing** is considered the "gold standard". The only way to calculate body fat more accurately is through this method

Hydrostatic weighing is also a **highly repeatable** way to calculate body fat. This simply means that your body composition is the **only** variable that affects the results.

This method can be an expensive, time consuming way to calculate body fat.

Hydrostatic weighing calculates body fat exactly based on **Archimede's Principle**. The examiner first calculates your **body density** by simply measuring the amount of water you displace when you first enter the tank. Then a specific equation is used to calculate body fat based on your body density.

Hydrostatic weighing is the most accurate way to calculate body fat if it's an option for you.