

Med-Fit Tech Assistant

Medical-Fitness Assessment - Learning Module #6

Anthropometrics

Part D

Part D: Percent Body Fat

Learning Objectives:

- Understand the concept of Percent Body Fat

It's not your Body Mass Index (BMI), but your Percent Body Fat (%BF) that is relevant to your health. So, why do we focus so much on BMI? Why not just measure Percent Body Fat?

Your Body Mass Index is influenced by both your Fat Mass and your Muscle Mass (aka: Lean Body Mass, LBM), and unfortunately, your BMI does not tell you how much of your body mass is fat and how much is muscle, or in other words, your BMI does not tell you what your body composition is. Making the distinction between muscle and fat mass is important, because regarding your health, excess fat is bad, and "excess" muscle is good (up to a point).

However, statistics have shown that for most people (75%), Body Mass Index is an accurate indicator of their "excess body fat," and thus, it relates directly to their weight-related health risks. This is mainly because most people tend to gain fat and lose muscle over time, because they continue eating the same amount as their physical activity decreases (by choice) with age. In other words, they eat too much, and/or they do not get enough exercise.

An increase in weight (or BMI) generally reflects the process of gradually "getting out of shape." But just to make sure, the Waist-to-Height Ratio (WHtR) can be used to confirm or reject the BMI as an indicator of weight-related health risk. This additional measurement helps distinguish whether your BMI value reflects mostly fat or mostly muscle. WHtR is also useful because it directly measures "abdominal obesity," which is an independent health risk factor.

The public's obsession with weight is cultural and persists even though body measurements are limited and often flawed. This is why medical-fitness testing is so important. The best way to determine "weight-related" health risk is by directly testing a person's fitness level. The number on a scale or tape measure is static. A fitness score is dynamic and functional. A fitness score not only determines your health risk more accurately, it goes beyond to determine the person's true level of health.

Percent Body Fat (%BF) VS BMI + WHtR

Bioelectrical Impedance Analysis (BIA) is a method that some scales and hand-held devices use to estimate Percent Body Fat. Although this method is convenient and affordable, it has a plus/minus range of 4%, which makes it not precise enough for clinical or research purposes, or even for personal application.

The more accurate methods for measuring %BF (e.g., underwater weighing or skin-fold measurements) are complicated, expensive, and require special equipment and skilled personnel.

In contrast, BMI is easily calculated from two simple measurements (height & weight), which are accurate and reliable. When coupled with WHtR, another simple and accurate measurement and calculation, BMI+WHtR becomes a valid assessment of health risk that can be tracked easily and accurately, making it most appropriate for use with the general public in a community-based clinical setting.

General fitness testing, however, will become the ideal measurement of health as more medical-fitness technicians are trained and more medical-fitness services become available. Until then, and through the

transition, we are stuck having to measure and explain body weight and waist circumference in relation to health risk.

Fortunately, overweight and obesity (reflecting a state of de-conditioning or unfitness) and their related health risks are reversible using proven lifestyle approaches that are safe and effective. Using the latest lifestyle strategies in nutrition and exercise, overweight/obese individuals can lose 0.5-1.0 pounds of fat per week and keep it off.

Although getting regular exercise is powerful medicine by itself, it is also critically important to make sure that what and how much your clients are eating follow healthy nutritional guidelines for supporting safe and permanent fat loss, as well.

A healthy weight (without too much fat and with enough muscle) is the key to wellness, but you can't get it from a "diet," or a pill, or a surgery, because it's a Lifestyle!

If the client has a validated BMI over 25, starting an exercise program "to lose the weight" may be more difficult and less safe and effective for them, as compared to unfit or de-conditioned individuals with lower BMI's. The client may want to focus their efforts on nutrition-based fat-loss and lighter "aerobic" physical activities (walking) before engaging in "muscle-building" exercises.

Certified Medical-Fitness Technicians and Assistants should often refer their clients to a local certified Lifestyle Medicine Coach if nutritionally based weight-reduction support services are indicated for the client's health and fitness goals.

Percent Body Fat

Percent Body Fat (%BF) can be estimated (+/- 4%) through Bioelectrical Impedance Analysis. BIA devices pass a small electrical current through the body, which is not detected by internal neuro-sensors. (The client does not feel anything.) Different body tissues: fat, muscle, bones, organs, etc., contain different amounts of water, and therefore transmit (or impede) the electrical current differently to give tissue-specific results.

However, even if technology in BIA continues to improve and measuring %BF becomes more accurate, it would still be an indirect method to measure health risk and fitness levels. Direct fitness testing is required to determine the functional capacity of the muscles and the condition of the cardio-pulmonary-vascular system that supports them.

It is the opinion of the course instructor that BIA is no more useful than an "eyeball" assessment of a person's body composition. You can use the charts below to learn from each client how to assess a person's approximate %BF.

A general guideline for a healthy %BF is: 10-20% for men and 15-25% for women. (see illustrations)

%BF Illustrations



A general guideline for a healthy %BF is 10-20% for men and 15-25% for women.

