

Fact Sheet: Body Composition

WHAT IS IT?

Body composition is an important health related fitness component, assessing what percent of a body, by weight, is made up of fat tissue and fat-free tissue. Fat tissue can be categorized into essential fat, fat you need and nonessential fat, which can cause health-related problems. Fat-free tissue, sometimes referred to as lean tissue, is everything else including muscle, bones, organs and blood.

WHY IS IT IMPORTANT THAT YOU KNOW YOUR BODY COMPOSITION?

Scale weight alone does not reveal the source of the weight. Body composition analysis will allow one to estimate whether they have an excessive accumulation of body fat that could increase their risk of developing cardiovascular, orthopedic and/or metabolic diseases. Likewise, having too little body fat can also be a health risk, because minimal amounts of fat are needed for normal physiological functioning.

HOW IS IT DETERMINED?

It is important to remember that the methods used to analyze body composition only result in estimates of percent body fat. Some estimates are good and some are not. The best methods require use of sophisticated laboratory equipment. One method known as the BodPod[®] utilizes air-displacement plethysmography to estimate percent body fat. Other methods include underwater weighing, skin-fold calipers, dual-energy x-ray, and bioelectrical impedance.

HOW DO BODY COMPOSITION AND BODY MASS INDEX (BMI) DIFFER?

Body mass index is mathematically determined using an individual's height and weight. It is a way to assess whether an individual is the right weight for their height. Studies have shown a strong relationship between high body mass indexes (being too heavy for your height) and the risk of disease. This relationship works well for the general population, but breaks down for populations of people such as athletes, who may weigh more because of increased muscle mass. Body composition estimates what part of the weight is actually fat and which part is fat free or lean.

HOW CAN I MONITOR MY OWN BODY COMPOSITION?

There are many commercially available devices that attempt to estimate body fat, but most can be influenced by multiple variables and offer limited accuracy. The best approach is to have a trained exercise scientist perform the assessment using valid and reliable laboratory technologies. The Human Performance Laboratory at California State University, Fresno offers a variety of body composition assessment services to the campus and general community using laboratory equipment such as the BodPod[®], skin fold calipers, and underwater weighing.

WHAT IS A HEALTHY AMOUNT OF BODY FAT FOR MEN AND WOMEN?

Expert opinions vary about optimal body fat values for men and women. Likewise, there is a lot of individual variability in what constitutes healthy body fat values for different people. Generally speaking, men and women are considered to have excessive body fat if it exceeds 21% and 31%, respectively. Excessive body fat becomes risky if men and women exceed 30% and 40% body fat, respectively. Minimal percent fat is generally thought to be about 5% and 15% for men and women, respectively. A generally accepted optimal range for children, up to the age of 18, is 10-20% body fat.