

# **Bioimpedance Analysis (BIA)**

## ***An Important Part of Health and Nutrition Assessment***

**Bioimpedance Analysis (BIA)** is a reliable method of measuring body composition, including percentage of body fat and lean body mass. Measurements are taken with a bioimpedance analyzer, which uses electrodes similar to EKG electrodes. The machine passes a harmless, ultra-low level electrical current through the body. Lean tissue (muscle), which is over 70% water, is a good conductor of electrical current. Fatty tissue – low in water, is not. Thus, the resistance to the flow of electrical current measured by the analyzer can be used to calculate body composition. By providing these accurate measurements, the BIA can help us create an effective, personalized lifestyle and dietary program to help you support optimal health and well-being for a lifetime.

Body composition is directly related to health. Most of the time, when people think about their weight, they don't take into account their body composition. In order to assess your physical fitness level, you need to regularly monitor your body fat percentage. A healthy BIA measurement indicates strong vitality and higher metabolism and a reduced risk of injury and a variety of serious health conditions such as cardiovascular disease and diabetes.

The BIA analyzes overall cell health, body fat, lean body mass, basal metabolic rate, body mass index and hydration status broken down into intra-cellular water versus extra-cellular water

**Overall Cell Health ("Phase Angle"):** This is an indicator of the overall state of your cell's health and therefore your overall health. Generally, the most important thing is to see the number increase throughout the course of your treatment. The higher the number, the healthier you are.

**Body Composition:** Many people think that your body's percentage of fat and muscle is mainly for athletes or people who are trying to lose weight. However, this is completely untrue. The more body fat you have, the more inflammation you have in your body. Inflammation stresses your liver, immune system and adrenal glands and is a significant risk factor for several diseases, including heart disease.

**Hydration:** Many people do not drink enough water and are chronically dehydrated. When your body is even minimally low on water your metabolism slows down. There are many other health problems that may result from low-level dehydration such as headaches, fatigue, carbohydrate/sweet cravings and more.

### **Pre-Test Preparation**

Over 100 independent studies conducted by researchers over the past 20 years have demonstrated that bioimpedance analysis will provide an accurate and clinically useful assessment of body composition.

***However, for the most accurate results, the following guidelines should be followed:***

- ❖ Do not eat for 4 hours prior to testing.
- ❖ Do not drink caffeine for 4 hours prior to testing.
- ❖ Do not exercise for 12 hours prior to testing.
- ❖ Do not consume alcohol for 24 hours prior to testing.
- ❖ Drink 2-4 glasses of water within the 2 hours prior to taking the test. (You may void as needed.)

The conductive medium in the body is water. Standardizing pre-test preparation will reduce the influence of temporary dehydration on test results.