



Bioelectrical Impedance Analysis (BIA): A Measure of Body Composition

What is Bioelectrical Impedance Analysis (BIA)?

BIA is a test that analyzes your body composition in terms of % fat mass and % lean mass by sending a low-level electric current through your body.

How does it work?

Electrodes are connected to your hands and feet and an imperceptible electrical current is sent through your body. The machine measures how the current is impeded in different tissues.



Tissues with a lot of fluid (muscle) are good conductors, so current moves faster. Tissues with less fluid (fat and bone) provide more resistance and slow the current down. By measuring the amount of resistance to the current flow, the machine can determine how much water is in different tissues. This is then used to calculate what percentage of your body is fat versus lean muscle.

What do my results mean?

Fat Free Mass (FFM): Another term for lean body mass. This is the amount of your body that is not fat. This includes water and muscle.

Body Cell Mass (BCM): The metabolically *active* parts of the body, muscle, organ, blood, and immune cells.

Extracellular Mass (ECM): The metabolically *inactive* parts of the body, bone, minerals, blood plasma, and extracellular water.

Fat Mass (FM): The total amount of fat stored in your body.

Basal Metabolic Rate (BMR): The number of calories you burn at rest.

Total Body Water (TBW): A measure of the total amount of water in your body.

Intracellular Water (ICW) and Extracellular Water (ECW): ICW is the water contained within your cells and ECW is the water found outside your cells.