

## Medical Clinic Moncton

Medical Clinic Moncton - Bioimpedance Analysis or otherwise known as BIA is a simple and noninvasive method utilized to be able to determine body composition. The accuracy of a BIA device is dependent upon various factors such as the choice of instrument and on the number of frequencies at which measurements are taken.

BIA was originally used around 30 years ago so as to measure the total water content of a person's body. This particular technique is actually made by passing a very low strength electrical current through the body. The impedance to the flow of this current is then determined.

There are two key ideas that BIA is based upon. First, an individual's body has water and conducts electrolytes. Water can be found in the bodies cells, within the ICF or intracellular fluid in addition to outside of the cells inside the ECF or extracellular fluid. At high frequencies the current goes through both the ECF and ICF while at low-level frequency, when a current goes through the ECF space it does not penetrate the cell membrane.

Secondly, the impedance of a geometrical system is related to conductor length, its cross sectional area and signal frequency. Utilizing these concepts, a value for impedance can be measured from a fixed level current going through an individual's body. This flow is inversely proportional to the amount of fluid. Total fluid determinations could actually be made specific for extracellular fluid by appropriate choice of signal frequency.