

Medical Clinic Lloydminster

Medical Clinic Lloydminster - Bioimpedance Analysis or BIA is a really simple and noninvasive method utilized to be able to ascertain the body's composition. The accurateness of a BIA machine depends on various factors such as the particular type of instrument and on the number of frequencies at which measurements are taken.

Initially used more than 30 years ago, BIA machines measure the total water content of an individual's body. By means of passing a very low level electrical current through an individual's body the impedance to the flow of the current can be determined.

There are actually 2 key ideas which BIA is primarily based upon. First, a person's body contains water and conducts electrolytes. Water can be found within the bodies cells, within the ICF or also known as intracellular fluid in addition to outside of the cells inside the ECF or otherwise known as extracellular fluid. At high-level frequencies the current goes through both the ICF and ECF while at low-level frequency, while a current passes through the ECF space it does not enter the cell membrane.

The next idea relates to the impedance of a geometrical system related to conductor length or its signal frequency over a cross sectional area. Putting all the ideas together, a fixed value for the impedance can be calculated from a fixed current going through the body. This current is inversely proportional to the amount of fluid. Total fluid determinations can actually be made specific for extracellular fluid by appropriate choice of signal frequency.