QUICK GUIDES

BIOELECTRICAL IMPEDANCE ANALYSIS

Version 1.0 - 1.2023

Bioelectrical Impedance Analysis

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The Importance of Physical Activity

Sedentary lifestyles with low levels of physical activity often lead to increased stress and depression (as well as increased risk factors relating to heart disease).

Using body weight as the sole measurement to gauge progress toward fitness goals is counterproductive because it only reports the total weight and not the proportions of muscle and fat.

BIA is a superior metric for better understanding body composition, described as the measurement of body fat in relation to lean body mass. BIA allows early detection of an improper balance in body composition, which may help foster earlier intervention and perhaps prevention. BIA may also provide a measurement of fluid and body mass that can be a critical assessment tool for health status assessment.

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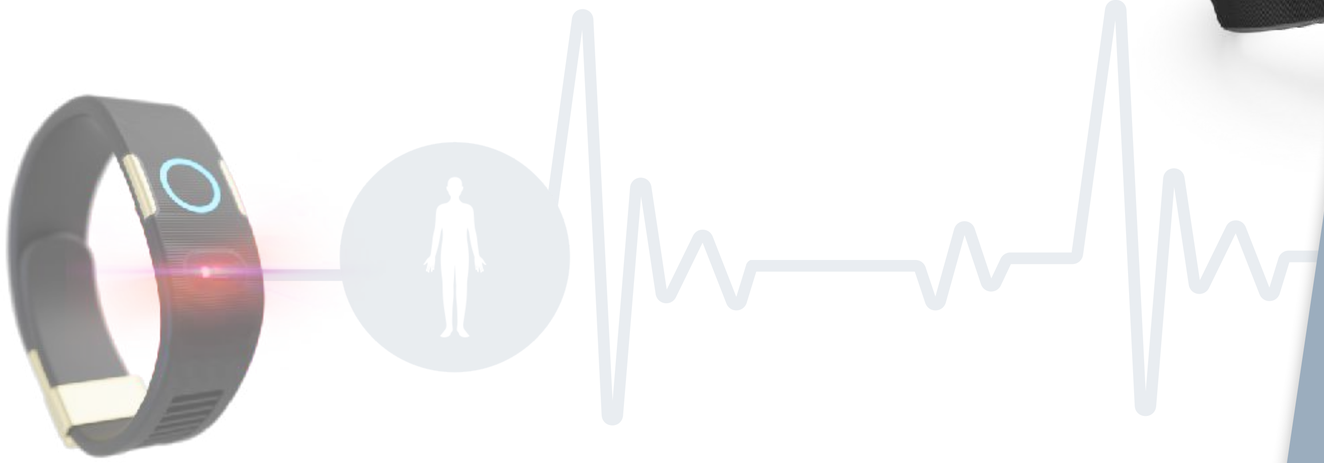
The Importance of BIA

- At Helo, we’re helping people become the greatest version of themselves by keeping them informed about their body which enables them to act appropriately to what their body is asking for.
- Our BIA uses safe and very low-frequency electrical signals that are sent through the body, allowing our Helo wearable devices and Leggera to gather data for analysis and calculation of the body’s composition, which can be used to help manage and predict health outcomes.



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How Helo’s BIA Works

The user’s data is collected using sensor electrodes placed on the external face and underside of Helo wearable devices and on the surface of Leggera.

During the BIA measurement, these electrodes are in contact with the skin at two points, thereby closing the circuit and allowing the passage of the low electric current through the body’s impedance.

In the case of Helo wearable devices, the electrical current passes through the arms and torso allowing analysis of the upper body and arms whereas with Leggera, the current passes through the legs allowing analysis of the lower torso and legs.

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Analysis

Total Body Water Measurement (TBW)

- Total Body Water (TBW) is a metric used to measure the body's water composition and can be extrapolated to express how well the body is carrying out normal functions.
- This metric is a powerful indicator of the body's hydration and can help identify times when one should modify daily activity to take appropriate action.
- Low levels of hydration can lead to mental fatigue, inability to make crucial decisions, and even brain damage. It can also be associated with an erroneous sense of hunger, triggering action which could lead to possible weight gain.

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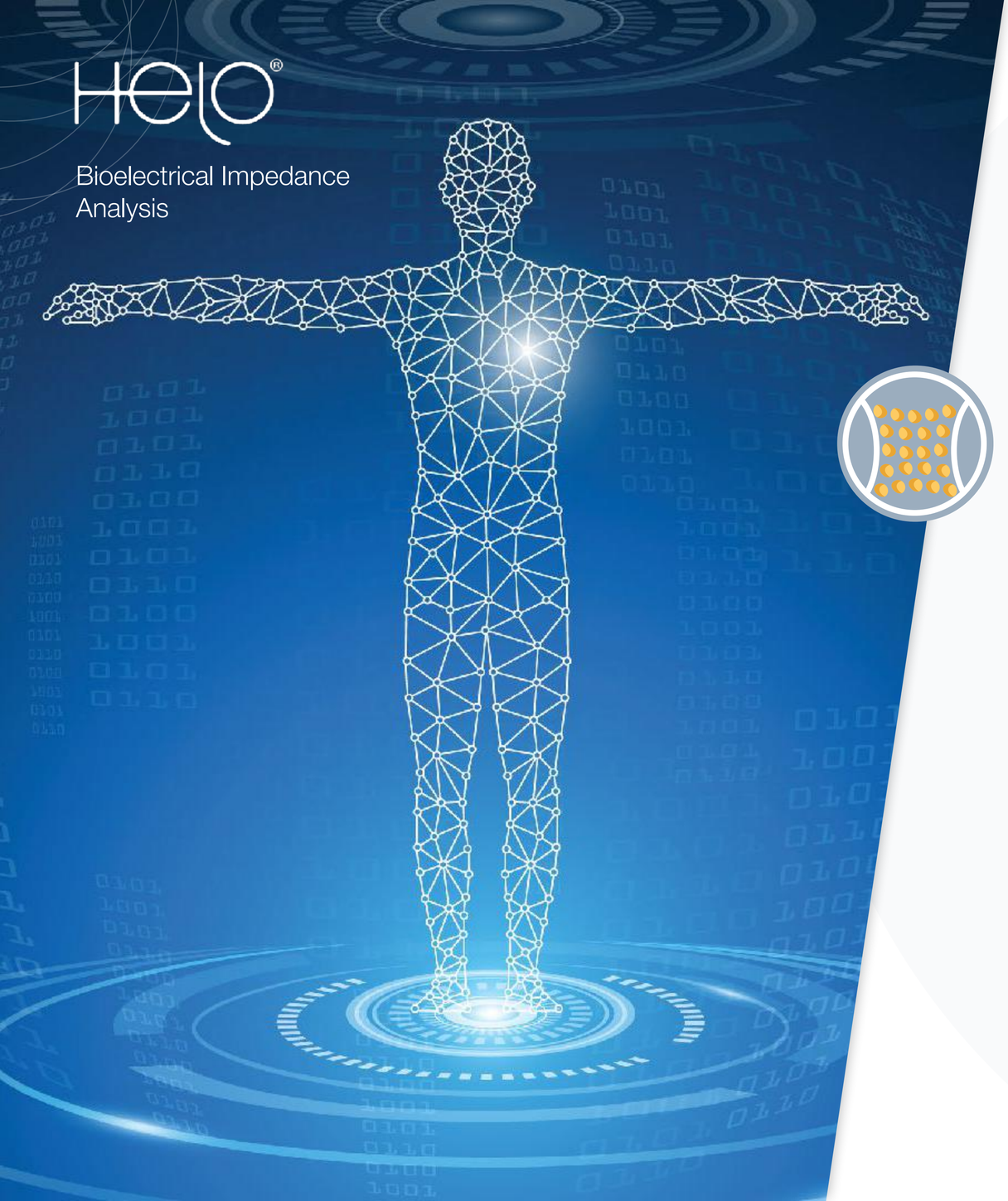

Fat Mass and Body Composition

- Fat Mass (FM) is a measure of adipose tissue. Excess body fat is a risk factor in numerous diseases such as heart disease, hypertension, respiratory failure, and type 2 diabetes.
- This metric is useful in understanding the health and composition of the human body, and, as a ratio, used to indicate the wellness of a patient.

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Basic Metabolic Rate and Body Composition

- Basal Metabolic Rate (BMR) is used to understand the energy needed to perform basic functions which the human body carries out at rest (such as respiration, blood circulation, digestion, maintenance of body temperature, the activity of the nervous system).
- By monitoring this data, it is easier to construct a full picture of the body's health and wellness.

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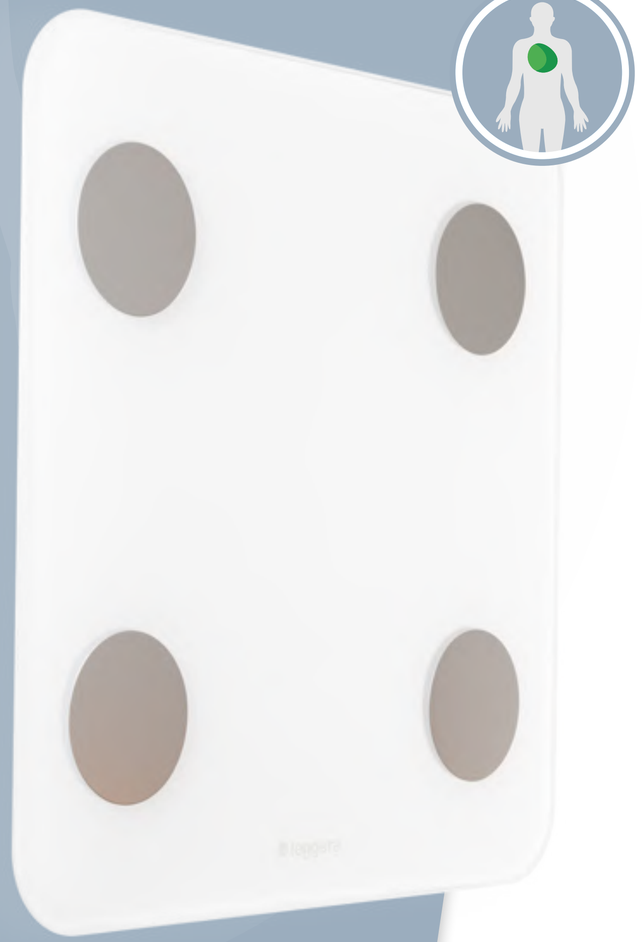

Body Cell Mass

- Body Cell Mass (BCM) is the calculation of the total mass of all the cellular elements in the body, which constitute all the metabolically active tissue of the body.
- The BCM includes muscle tissue, organ tissue, intracellular and extracellular water and bone tissue.
- Monitoring significant BCM changes can be useful in providing early warning of an underlying health problem.

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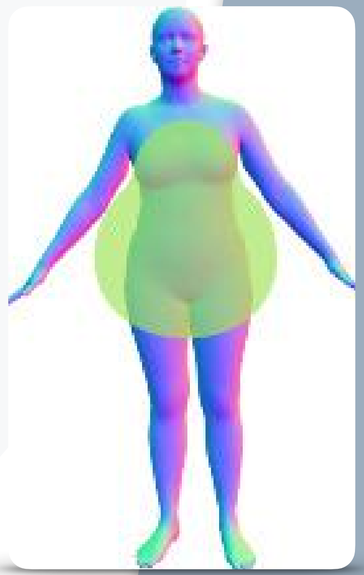
Biotypes (Android/ Gynoid)

- In physiological conditions, males and females are distinguished by a different distribution of the fat mass. Body forms are linked to the relationship between male and female hormones.
- In the case of pathological conditions, these differences can be exacerbated distinguishing two main types of obesity: **android**, typical in men; and **gynoid**, typical in women.

The most dangerous obesity, related to cardiovascular and metabolic complications, is android, whether it occurs in men or appears in women.

Android obesity is typically exhibited in males. It's associated with a greater distribution of adipose tissue in the abdominal, thoracic, dorsal, and cervicofacial regions.



Gynoid obesity, is typically exhibited in females. It is characterized by a distribution of the adipose masses in the lower half of the abdomen, in the gluteal, and femoral regions.

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The Sodium/Potassium Ratio

- A body’s sodium/potassium ratio (NA/K) provides insight into the body’s ability to maintain the balance between sodium and potassium, both inside and outside cells.
- An abnormal sodium-potassium ratio can be an indication of poor cellular function, including impaired ability to absorb nutrients, eliminate metabolic waste, and maintain muscle tension and contraction.

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Why BIA?

- Bioelectrial Impedance Analysis (BIA) is a simple, painless, and non-invasive way to measure body composition, and it provides measurements for a number of bioparameters, making it much more useful then just monitoring weight alone.

- Helo devices make BIA easy to do, while the Helo App conveniently processes and presents reports, and tracks the metrics determined by BIA.

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Note

Some features are not available in all markets.
Helo products and services are designed to support wellness and are not intended for diagnosing, curing, mitigating, treating, or preventing any diseases or other medical conditions and users should consult with a doctor or other qualified healthcare professional before making any medical decisions.

Cheers to Life Sensing Technology™

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