Non-invasive method of body composition using state-of-the-art technology
The InBody has received recognition by medical professionals worldwide for its high precision and clinical reliability. This is due to Biospace’s commitment to creating superior body composition analysis devices that are built on the knowledge that accurate body composition methods provide the foundation for the effective treatment of many diseases and ailments.

The unparalleled technology of the InBody
The InBody technology is exclusively protected by patents throughout the world. Implementing the 8-point tactile electrode method allows the InBody to operate without reliance on empirical estimations such as age, gender, and body type.

The superior technology of the InBody
The InBody is a high-tech device that uses the latest advancements in multiple frequency BIA to measure resistance in broadband frequencies of 1KHz-1MHz and reactance in mean frequencies.

Biospace continues to be at the forefront of body composition analysis, leading the healthcare and fitness industry to new heights. Our line of high quality body composition analyzers have set new standards in healthcare, especially obesity. This is in large part due to its primary focus in product development and clinical research.

In recent years, people have come to recognize that obesity causes a wide range of health problems. It is known that the most effective and scientific way to prevent obesity is to analyze body composition on a regular basis. Over the past few decades, a technique has been developed which analyzes body composition based on the electrical conductive properties of biological tissues. Bioelectrical Impedance Analysis (BIA) has many advantages over other methods in that it is safe, rapid and easy to perform, and requires minimum operator training. Thus, the technique has become widely used in hospitals, health centers, fitness clubs and field studies.

Particularly as it relates to detecting acute or chronic changes in body composition, the clinical usefulness of conventional BIA has been limited to healthy average people. Due to localized fluid accumulation or loss, and the inability to accurately assess the balance between intracellular water (ICW) and extracellular water (ECW), there has been difficulty applying the BIA method to people who truly need to analyze their body composition, such as the elderly, children, and athletes.

Biospace has improved upon and redefined the conventional BIA method with its technology through many clinical studies and research papers. Because the body is not an isotropic electrical conductor with uniform cross-sectional area, we consider the body as consisting of five cylinders (four limbs and the trunk) and measure the amount of body water segmentally. Moreover, we use multiple frequencies to measure ICW and ECW separately. Thus, the InBody does not have to use empirical estimations based on age, gender, and body type to compensate for inaccuracy.

Biospace has acquired patents and certifications all across the world, including FDA, approval which is acknowledged worldwide. As one of the pioneers of BIA, Biospace is the only company that specializes in body composition analyzers. Perhaps this is why the InBody is utilized in hospitals, clinics, universities, pharmaceutical companies, professional sports, fitness clubs, and much more.

Certifications and patents acquired by Biospace

Premium customer service
Equipped with years of experience in clinical research and a database of over 20,000, the Clinical Research team provides exceptional service to all your questions about body composition analysis, clinical applications, obesity-related information, research support, and the latest research trends.
The InBody conveniently tracks changes in body composition with high precision.
Features

1. **High precision measurement**
The InBody’s exclusively patented electrode system makes it possible to measure each individual, with high reproducibility by enhancing the conductivity between the contact points.

2. **Full page InBody results sheet**
Just one test on the InBody can provide an arsenal of useful information towards treatment, diagnosis, and/or research.

3. **Color TFT LCD**
Through a 6.4 inch color TFT LCD screen, you can follow the measurement procedure in detail.

4. **Advanced design**
The InBody’s sleek design adds both prestige and quality to your program.

Areas of InBody application

**Research**
The flagship InBody720 is used in research facilities all over the world to not only monitor changes of Lean Mass and Percent Body Fat, but to apply the unique implications of impedance, reactance, resistance, and phase angle.

**Primary Care**
The InBody provides information necessary to prevent diseases like hypertension, diabetes, heart disease, and fatty liver. In particular, with the inclusion of high-tech measurement items like segmental lean analysis and extracellular to total body water ratio, it is being widely used for medical examination and proper diagnosis.

**Obesity clinic/Plastic surgery**
The InBody provides high-precision data required to properly diagnose and treat patients that may suffer from severe obesity, obesity with less developed muscle, geriatric obesity, childhood obesity, and obesity after childbirth. It also has a higher level of precision when working with those considered outside of the norm, so more appropriate treatment may be made.

**Rehabilitation/Orthopedic/Pain clinic**
By providing direct measurements of each arm, leg, and the trunk, you are able to monitor treatment effectiveness in each patient with changes that could otherwise go unnoticed.

**Nephrology**
The InBody is used to help judge the body water balance and detect changes in body water before and after dialysis. Due to its sensitivity to changes in body water, it will confirm dramatic changes.

**Sports medicine/Fitness**
The InBody reports precise data for body development and balance during training and exercise prescription. Over time, you can use the InBody to show exact gains in muscle mass in each region.

**Nutrition clinic/Geriatric clinic**
The InBody is used to analyze nutritional and current health condition for patients with geriatric disease, chronic illnesses, and children during the early growth periods. In particular, you are able to monitor and react to dramatic muscle loss.

**Pediatrics**
The InBody also plays an important role in combating one of the world’s largest epidemics in childhood obesity. By monitoring childhood growth and balance, the InBody is able to provide diagnosis to issues that would otherwise go untreated.
Full page of results based on measurements

1 Examinee information
The Results Sheet displays the I.D., Gender, Age, Height, Date and Time of measurement of the examinee for record keeping purposes. Gender and age are for recommended ranges only and are not used for measurement.

2 Body Composition
Your body is composed of water, dry lean mass (protein and mineral) and fat. Total body water is comprised of water within the cells (Intracellular water) and water outside the cells (Extracellular water). A healthy body maintains a balanced ratio of ICW and ECW. Generally accumulation or increases in extracellular water can be associated with poor nutrition, poor circulation or overall declining health. Lean body mass is the primary location of intracellular water and the driver of proper metabolism. Maintaining or increasing lean body mass is a key to keeping the percentage of body fat within healthy ranges and retaining or increasing strength.

3 Obesity Analysis
BMI isn’t a measurement, but a calculation based on your height and weight. A BMI over the normal range can indicate a weight problem, or a degree of obesity. Individuals with large amounts of muscle mass for their height may also have a BMI over the normal range; this is not indicative of obesity or a health risk. Percentage of Body Fat is a measured component of your actual body composition. PBF is the percentage of your total weight that isn’t muscle, bone or excess fluid. PBF is a more accurate means of assessing degrees of obesity or degrees of fitness.

Body Types

- **ECW/TBW**
In general, healthy people maintain a ratio of Extracellular Water (ECW) and Total Body Water (TBW) near 0.380. The expected or healthy range of ECW:TBW is 0.360 – 0.390. Please consult your physician if the reported ratio is 0.400 or above. Athletes or those with a higher than average percentage of lean mass or lower PBF, can tend toward a ratio of ECW:TBW of less than 0.360. Measurement and monitoring of this ratio is another way to discern changes in your health and fitness level.

- **Basal Metabolic Rate**
Basal Metabolic Rate, or BMR, is the minimum number of calories expended while completely at rest, not including calories required to digest food. We tend to lose muscle mass as we age, a process known as sarcopenia, which causes our caloric needs to decrease. Developing muscle mass is the only way to increase your minimum caloric requirements.

- **Body Composition History**
Examination results are stored so that changes in body composition of the examinee may be tracked over time and trends can be identified in a glance.

- **Impedance–Reactance–Resistance–Phase Angle**
Bioelectrical Impedance Analysis introduces weak electrical currents into the body. The human body forms resistance (R) and reactance (Xc) when an alternating current is transmitted through the body. R is the interrupting force that occurs when the current flows through body water. Xc is the interrupting force of alternating current flow at the cell membrane. The unit by which these three values are measured is the Ω (ohm), the relationship of these characteristics are as follows:

\[ Z^2 = R^2 + Xc^2 \]

The impedance vector can also be applied. With Z, Xc, and R, we can derive the phase angle, the angle from R and Z.

\[ \text{Phase Angle} = \arctan \left( \frac{\text{Reactance}(Xc)}{\text{Resistance}(R)} \right) \]

Phase angle value can begin at a min of 0° to max 90°. As reactance increases, the phase angle value also increases and vice versa.

Since reactance is the interrupting force of alternating current flow, it increases in proportion to the integrity of the cell membrane. Therefore, reactance and phase angle decrease when the number of cells decrease or cell membrane is more permeable or unhealthy.

A possible indicator of membrane integrity and water distribution between intra- and extracellular spaces, phase angle could be considered an important tool for evaluating clinical outcome or for monitoring disease progression.
## Specifications

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*Specification is subject to change without prior notice.*