SeeHigher

вса-м1 Body Composition Analyzer

Advanced Analysis of the full body and segments





Health Management with Body Composition Analyzer



Why We Need Body Composition Analysis ?

Human body consists of elements like water, fat, protein and minerals of a certain ratio. This ratio is balanced in healthy bodies, but when it is unbalanced, there will be many diseases occurred in the bodies, for example, obesity, edema, metabolic disorder and malnutrition.

Fit and

Healthy

- To evaluate the obesity level and health risk;
- To predict the risk of chronic diseases;
- To set proper fitness goals and trace the results;
- To control body weight and build body shape;
- To make the diet plan.

BIA Technology



Different part of human body has significant difference on impedance. BCA use 6 testing circuits: Left Arm-Right Leg, Right Arm-Left Leg, Left Arm-Left Leg, Right Arm-Right Leg, Left Arm-Right Arm, Left Leg-Right Leg. Only this complex model can give real comprehensive impedance level of whole body.



Multi-Frequency Bioelectrical Impedance Analysis (MFBIA) utilizing frequencies between 1 kHz and 1000 kHz. An electric current less than 100 kHz cannot penetrate cell nor flows through extra-cellular water so it is to measure extra-cellular water (ECW). An electric current over 100 kHz penetrates cell membranes and flows through cell to measure total body water (TBW). ECW and TBW are measured separately to diagnosis of body water balance, especially edema.



BCA use advanced Tetrapolar 8-Point Tactile Electrode System. Tetra-polar electrode method separates current electrode and voltage electrode and uses each current electrode and voltage electrode, which brings high accuracy (Low contact resistance) and conformity.

Guaranteed by MRI ——the golden standard

Head

Thoracic

Cavity

Thigh

Calf

Abdominal



Most applicable BIA system need to be calibrated by other methods, among those, MRI scanning is more accurate than DXA, CT and ultrosonic. MRI (Magnetic Resonance Imaging) can scan whole body and regarded as "Golden Standard". Our research team use whole body scan to get continuous image of every cross section (interval 1 cm) of human body. By using specific software, we identify each composition and calculate its area. Then we calculate the volume of each composition and work out the final result with our patented equation. Our analyzer is with high correlation with DXA result as well.

Real multi-frequency, multi-circuit

Modern science proved that different frequencies of current pass the human body in different ways. Low frequencies flow through the external water and are unable to penetrate the cell wall. A higher frequency will measure the water content inside of the cell because it penetrates the cell wall. By using a diverse set of frequencies, we can accurately measure fluid inside and outside the cell separately.

Our unique DDS (Direct Digital Synthesizer) technology produces 2~6 different frequencies of current that flow through each segments, providing a more accurate body impedance information.

Segmental Analysis



Different part of human body play different role in total impedance. The impedance of whole body is not sensitive to body composition. With our advanced segmental impedance measuring model, we divide the body as 5 parts: Left Arm, Right Arm, Trunk, Left Leg and Right Leg. BCA measure the impedance of individual part and calculated together in our equation. Combined with the 6 circuits testing method, BCA can tell the most accurate composition of every part of your body.

Software Support

Our PC software- BCA Master With this powerful software, all the examinee's information can be managed from your computer: 1. Set up the user file

- Start the BCA test
 Check and print out test report
- 3. Check and print out test rep
- 4. Check the history chart
- 5. Export the data as Excel file

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2. Start the BCA test



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5. Export the data as Excel file

Operating Interface

Large size touch LCD and hand grip designed on human engineering make the test more fast and easy.









Features

NO ESTIMATIONS

Only impedance is used to calculate your results; no statistical data needed

LEAN MASS

See lean mass values for each body segment in pounds

BODY WATER

Full-page results sheet on solely body water analysis

SEGMENTAL DATA

Provides segmental ICW, ECW, and ECW/TBW values

60 SECONDS

Take a quick and easy body composition and body water test

BODY FAT

Provides segmental fat and visceral fat analysis

HISTORY

Track your progress with the body composition and body water history charts

RESEARCH

Provides Leg Lean Mass, Phase Angle, Reactance, & TBW/LBM

Report Sample

Body Composition Analysis Report [BCA-M1]

ID	Height	Age	Gender	Test Date/Time
180130001	187cm	33	Male	01-30-2018 02:04 PM

Body Com	position /	Analysis
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			Total Body Water	Soft Lean Mass	Fat Free Mass	Weight
Total Body Wate	er(L)	51.2 (43.3~52.9)	51.2	65.9		
Protein	(Kg)	13.9 (11.6~14.2)		(55.6~67.9)	69.8 (58.9 ~ 71.9)	80.6
Mineral	(Kg)	4.80	Non-ce	Seous		(65.4 ~ 88.5)
Body Fat Mass	(Kg)	10.8 (9.2~18.5)				

Muscle-Fat Analysis

Weight	(Kg)	55	70	85		.1 ¹⁵	130	145	160	175	190	205	96
Skeletal Muscle Mass	(Kg)	70	80	gio	100	- 39.9	120	130	140	150	160	170	96
Body Fat Mass	(Kg)	40	60	80	- 10.8	120	140	160	180	200	220	240	96

Obesity Analysis

BMI	12.0	15.0	18.0	21.0	24.0	27.0	30.0	33.0	36.0	39.0	42.0
Percent Body Fat (%)	0.0	s.o	10.0	- 13.3	20.0	25.0	30.0	35.0	40.0	45.0	50.0
Waist-hip Ratio	0.70	0.75	0.80	o.85 0.81	0.90	0.95	1.00	1.05	1.10	1.15	1.20
Obesity Rate (%)	70	80	oe	100	.04.8	120	130	140	150	160	170 %

Based on ideal weight *** Based on current weight ***

Segmental Lean Analysis

						1							
Right Arm	(kg) (%)	40	60	вò	100	3.8 12 6	140	160	180	200	220	240	%
Left Arm	(kg) (%)	40	60	80	100	120 3.8 02.6	140	160	180	200	220	240	98
Trunk	(kg) (%)	70	80	90	100 21 99	110 9.4 9.5	120	130	140	150	160	170	96
Right Leg	(kg) (%)	70	ao	90	100	110	11.7 113.7	110	140	150	160	170	96
Left Leg	(kg) (%)	70	ab	oe	100	110	11.6 12.3	130	140	150	160	170	96

Body Composition History

Weight (Kg	80.6 81.0			Waist-
Skeletal Muscle Mass (Kg)	42.3 39.9			Imp
Percent Body Fat (%)	13.3 13.9			mp
Waist-hip Ratio	0.81 0.78			50) 250)
	01.30.18 14:04			

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arget Weight	80.6 kg
/eight Control	0 kg
at Control	0 kg
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Obesity Analysis

E

BMI	🗹 Normal	🗌 Under Weight	□ Over Weight □ Obese
Percent	Body Fat (%)	🗹 Normal	□ slightly obe

Segmental Analysis

		Muscle (kg
Left Arm		Right Arm
3.8kg 102.6%	Trunk 29.4kg 99.5%	3.8kg 102.6%
11.6kg 112.3%		11.7kg 113.7%
Left Leg		Right Leg
		Fat (kg
Left Arm		Right Arm
0.5kg 68.5%	Trunk 5.4kg 110.0%	0.5kg 70.3%
1 71.0		1 740
1.7Kg 84.6%		85.7%

Research Data

Basal Metabolic Rate	1879 kcal (1641 ~ 1924)
Waist-hip Ratio	0.81 (0.80 ~ 0.90)
Visceral Fat Area	42 (0 ~ 100)

Sight Am Left Arm Truck Right Leg Left Leg 50KHz 286.4 286.6 23.5 217.0 222.3 250KHz 256.9 258.3 19.9 192.5 196.5

BCA-M4 Results Interpretation

1. Body Composition Analysis

1) Intracellular Water, Extracellular Water and Total Body Water

ECW is the water found in plasma, interstitial fluids, bone, cartilage, and dense connective tissues. ICW is the water found in the cytosol of every cell in the body.

The sum of ECW and ICW is TBW.

2) Protein and Mineral

Protein is the main component, along with body water, of Soft Lean Mass. It is directly related to intracellular water. Therefore, a lack of protein indicates a lack of intracellular water, which in turn implies poor cell nutrition. 3) Mineral

) Mineral

Minerals help the body preserve and play a core role in the human body. It is closely related to soft lean mass. If you have more lean mass, the weight of bones will increase, which in turn raises the mineral mass accordingly.

4) Body Fat Mass

Body fat is found under the skin or around organs. When fat mass is higher than the standard range, the examinee is diagnosed as being obese.

2. Muscle-Fat Analysis

1) Weight

We separate body weight into total body water, protein, mineral and body fat. Protein and mineral compose dry lean mass.

2) Skeletal Muscle Mass

100% standard SMM refers to the ideal quantity of SMM for an examinee's standard weight. There are three types of muscle - cardiac muscle, visceral muscle and skeletal muscle. The skeletal muscle is the most changed through exercise.

3. Obesity Analysis

1) BMI

BMI=Weight/Height2(kg/m2)

It is widely used in general medicine, dietary and sports medicine fields for diagnosing obesity. 2) Percent Body Fat

*PBF = Fat(lb) / Weight(lb) x100

The normal range for PBF for males is 10-20% and 18-28% for females. People with a high PBF are regarded as obese or overweight. People with low PBF as well as inadequate muscle mass are considered unhealthy and have a higher possibility of contracting clinical diseases.

3) Waist-Hip Ratio

WHR is a useful indicator for comprehending the distribution of body fat.

4. Segmental Lean Analysis

It reveals the distribution of lean body mass. The numbers beside the upper bar graph indicate the lean mass in the designated segment and the lower bar graph reaches 100%, the examinee has the ideal lean mass in relation to his or her height.

5. Edema Analysis

1) ECW/TBW, Edema

Edema = Extracellular Water / Total Body Water ECW/TBW ratio is expected to fall between 0.36-0.39. Ratio above 0.39 can be considered as edema and indicate presence of a chronic health condition that may require medical attention. 2) ECF/TBF

Edema index is also used to calculate the proportion of ICF and ECF. Fluid refers to the state in which protein and mineral are mixed in body water with a 2:1 proportion of ICF to ECF, the ideal range of ICF/TBF is between 0.31 and 0.35.

6. Body Composition History

An individual measuring under same ID will have their body composition results from last 10 tests.

7. Fitness Score

It is to understand the state of body composition. 70 points or less means weak or obese type that needs exercise and diet control; 70 to 90 points means normal, healthy Type; 90 or more means robust type with well-developed muscle

8. Segmental Fat and Water Analysis

These two graphs reveal the distribution of body fat and water. The above numbers are the amount of fat or water in kg, the lower numbers are examinee's data compared to ideal mass of his/her height.

9. Research Data

1) Visceral Fat Area

Visceral fat is the fat surrounding organs. Higher amounts of visceral fat are associated with the diseases like diabetes, stroke and dementia. 2) BMR (Basal Metabolic Rate) It indicates the minimum energy required for

It indicates the minimum energy required for sustain vital functions while at rest.

Specification

Model	BCA-M1
Measurement method	Direct Segmental Multi-frequency Bioelectrical Impedance Analysis Method (DSM-BIA)
Measurement Part	Whole Body, Right Arm, Left Arm, Trunk, Right Leg and Left Leg
Testing Frequency	50, 250 kHz
Electrode Method	8-Point Tactile Electrode System
Resistance Scope	10~1200Ω
Current	Up to 450µA
Power Supply	Power Supply
Display	12.1" (1024×768), Color TFT LCD, Touch Panel
Dimension	494×768×1250mm(L×W×H)
Machine Weight	50 kg
Measurement Duration	<60 seconds
Testing Height Range	80~220cm (2 ft. 8 in.~6 ft.7 in.)
Testing Weight Range	10~250kg (22 ~ 551lbs.)
Testing Age Range	6~99
Operation Environment	41 ~ 104°F (5 ~ 40°C), 20 ~ 75% RH, 70 ~ 106kPa
Storage Environment	- 4 ~ 158°F (-20 ~ 70°C), 10 ~ 90% RH, 50 ~ 106kPa

* Specifications can be changed without a prior notice

Contact us

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