Professional
Body Composition Analyzer

The MA801 Body Composition Analyzer applies artificial neural network algorithms to Bioelectrical Impedance Analysis (BIA), for more reliable and accurate measurement of body composition. Featuring advanced output parameters designed for evaluation of quality and health status, our results are formulated and validated with clinical trials, providing medical professionals with accurate and reproducible measurement data.

www.chardermedical.com

Advanced Body Composition Analysis Outputs

Abdominal Fat

The location and amount of Visceral Fat correlates with metabolic risk more than total body fat, and has been determined to be a more reliable method of identifying subjects at risk for cardiovascular diseases than current definitions of obesity.

* Hamdy O et al. Metabolic Obesity: The Paradox Between Visceral and Subcutaneous Fat. Curr Diabetes Rev, 2006, 2, 367-73

Bioelectrical Impedance Vector Analysis (BIVA)

Traditional BIA's reliance on standard body water proportion makes it less reliable for use for patients with illnesses affecting body water. BIVA's direct measurement of resistance (R) and reactance (Xc) values compared with normal populations allows for fluid and cellular monitoring even for "abnormal" patients, increasing BIA reliability in clinical use.

* Piccoli et al. A new method for monitoring body fluid variation by bioimpedance analysis: the RXc graph. Kidney Int 1994; 46(2): 534-539

Phase Angle (Percentiles)

Measurement of quantity is of limited utility for evaluation of health. Through tracking of Phase Angle, an indicator strongly correlating with age and health, evaluation of patient's cellular status and corresponding context can be made.

* Gonzalez MC et al. Phase angle and its determinants in healthy subjects: influence of body composition. Am J Clin Nutr 2016; 103:712-6
* Marra M et al. Bioelectrical impedance phase angle in constitutionally lean females, ballet dancers, and patients with anorexia nervosa. ECJN 2009; 63, 905-908

Muscle Quality

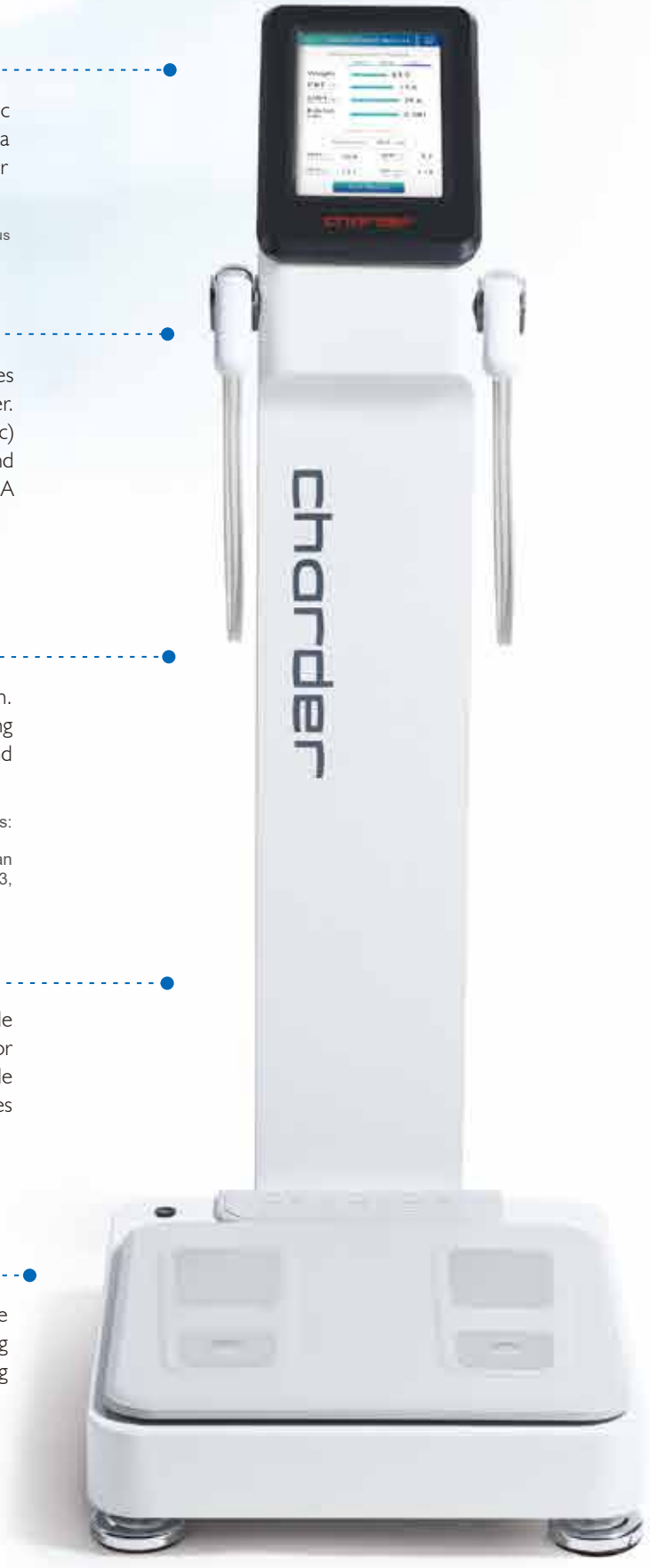
Through measurement of cellular quality, the MA801 can provide estimates of potential handgrip strength, used as a clinical marker for poor mobility, and a better predictor of sarcopenia than muscle mass. Comparison between dynamometer and estimate places subject's strength level in context.

* Cruz-Jentoft AJ et al. Sarcopenia: European consensus on definition and diagnosis. Age and Ageing 2010; 39:412-423

Edema Index

Extracellular Water Proportion is a major risk indicator for all-cause mortality, kidney deficiency, and cardiovascular disease, providing potential early warning for health complications requiring preventative action.

* Liu MH et al. Edema index established by a segmental multifrequency bioelectrical impedance analysis provides prognostic value in acute heart failure. J Cardiovasc Med (Hagerstown) 2012 (5):299-306



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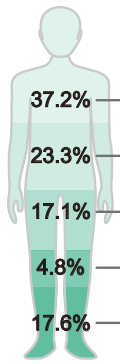
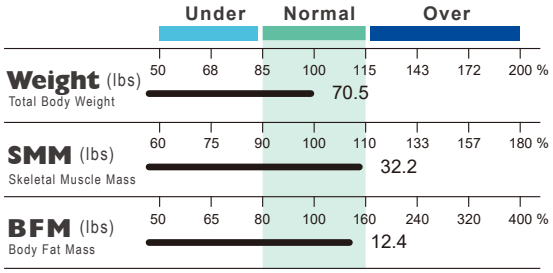
Name	ID	Ethnicity	Height	Gender	Age	Measured Time
John	7347204154	Asian	181.0 cm	Male	32	2019.03.28 16:15

1 Body Composition Analysis

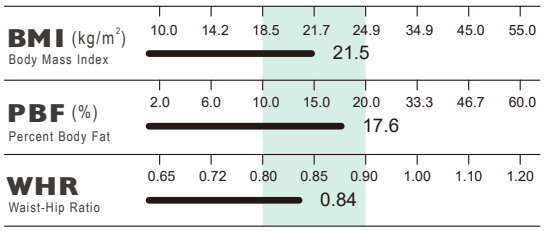


Compartments	Values	TBW	SLM	FFM	Weight	Normal Range
ICW Intracellular Water (lbs)	26.2	42.6	54.7	58.1	70.5	25.0 ~ 30.5
ECW Extracellular Water (lbs)	16.4					15.3 ~ 18.7
Protein (lbs)	12.1					8.0 ~ 11.4
Mineral (lbs)	3.4					2.3 ~ 3.9
BFM Body Fat Mass (lbs)	12.4					7.0 ~ 14.1

2 Muscle - Fat Analysis



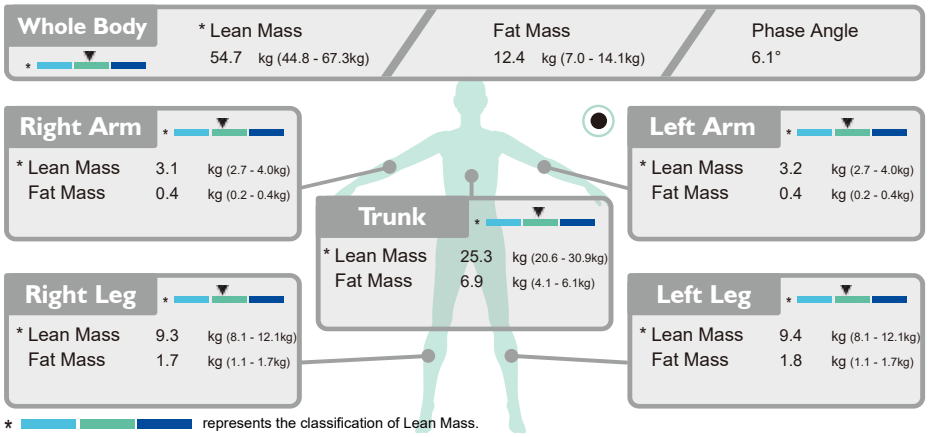
3 Obesity Analysis



Abdominal Fat (L4-L5 vertebrae)

Visceral Fat	Subcutaneous Fat
52.0 cm²	94.8 cm²

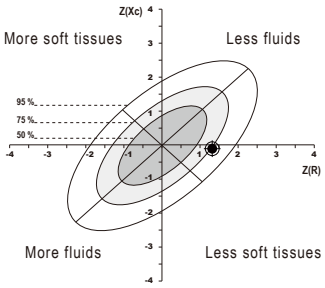
4 Total & Segmental Analysis



* represents the classification of Lean Mass.

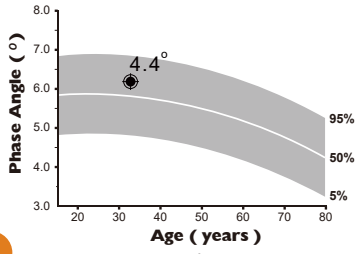
5 BIVA

Bioelectric Impedance Vector Analysis



6 Phase Angle

Whole-body phase angle (50 kHz)



7 Muscle Quality

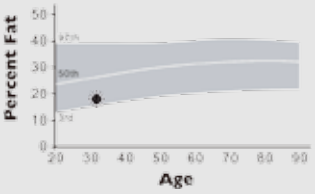
Right Hand	Left Hand
383 ~ 468 N	357 ~ 436 N
39 ~ 48 kgf	36 ~ 44 kgf

Health Score

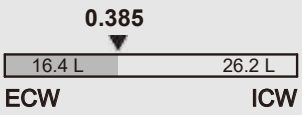
72.4/100 Points

The healthy score is an arbitrary score based on the measured lean mass index, fat mass index, skeletal muscle index, and phase angle for the motivation of the subject.

8 Percentage body fat percentiles for adults



9 Edema Index



10 Research Information

Basal Metabolic Rate	1625 kcal
Waist-Hip Ratio	0.84
Waist circumference	78.0 cm
Visceral Fat Area	52.0 cm²
Body Cell Mass	37.7 kg
Right Arm Circumference	27.8 cm
Left Arm Circumference	28.7 cm
Arm Muscle Circumference	25.4 cm
TBW / FFM	73.4 %
Fat-free Mass Index	17.7 kg/m²
Fat Mass Index	3.8 kg/m²
Skeletal Muscle Index	9.8 kg/m²

Impedance

	RA	LA	TR	RL	LL
5kHz	361.9	355.6	25.2	273.0	272.6
20kHz	339.4	331.8	22.1	253.3	252.9
50kHz	326.3	318.5	20.5	244.7	243.8
100kHz	330.4	322.2	18.1	243.7	243.1
250kHz	305.8	329.6	12.2	229.2	227.4

Introduction to the Body Composition Result Sheet

1 Body Composition Analysis

Reliable, non-invasive Bioelectrical Impedance Analysis makes it easier to conduct regular monitoring of Body Composition. The calculated estimated weights of the body's compositional elements can be compared with standard results for context.

2 Muscle-Fat Analysis

Measurement of weight is important, but incomplete without further analyzing the amount of muscle and fat in a subject. Understanding skeletal muscle and body fat proportions can help healthcare professionals formulate muscle and fat control recommendations.

3 Obesity Analysis

Different body fat indicators provide valuable information needed for a more useful evaluation of health. Percent Body Fat is a general indicator, while Waist-Hip Ratio and Visceral Fat are used as critical cut-off points for risk of obesity-related diseases which may not be immediately visible from the outside.

4 Total & Segmental Analysis

Measure muscle and fat more precisely with segmental analysis of the trunk, upper body, and lower body. Identify imbalances, and determine if the subject's muscle is within normal range, tracking changes to better observe the effects of rehabilitation or disease.

5 BIVA

Bioelectrical Vector Impedance Analysis (BIVA) uses direct measurements of reactance and resistance, allowing it to provide reliable comparisons and evaluations of cellular hydration and nutritional status - even for individuals with abnormal hydration - making it easier for healthcare practitioners to evaluate a patient's status.

6 Phase Angle

Phase angle decreases with illness and old age, making it an important indicator of health, and an absolute necessity for a professional body composition evaluation. Compare patient's phase angle with their respective gender and age, placing results into context.

7 Muscle Quality

Estimation of Grip Strength provides a valuable muscle quality indicator that can point to changes more quickly and noticeably than a simple measurement and tracking of muscle mass.

8 Body Fat Percentiles

Compare patient's body fat percentages with similar population, placing results in context of age, gender, and ethnicity.

9 Edema Index

Identify abnormalities in intracellular/extracellular fluid proportion, using the edema index as an indicator and warning sign for diseases affecting body fluid balance, including impaired heart and kidney function.

10 Research Information

The MA801 provides a wide variety of body composition output parameters of particular relevance for research, and includes various indexes used as early warning signs for malnutrition, obesity, and sarcopenia.

Take your practice to the next level with clinical application of advanced BIA Body Composition Analysis

Sports Medicine

Monitor Rehabilitation Progress

Utilize Phase Angle to track progress and recovery at a cellular level, helping you determine when it's safe to allow an injured athlete to resume training and tough workouts.

Fluid Management

Track changes in body fluid

Precise tracking and management of extracellular and intracellular fluid is of utmost importance in a wide variety of diseases, including but not limited to cardiac and renal deficiency. Utilize the Edema Index to evaluate imbalance, and track body water changes as frequently as needed.

Obesity Treatment

Evaluate effectiveness of weight loss

Prioritize clinically important indicators of metabolic risk by tracking changes in visceral fat area. Help evaluate if patient is at risk, and determine if current treatment regimens are effective.

Evaluation of Sarcopenia

Track changes in quality, not quantity

In elderly populations, muscle strength can decline much more rapidly than muscle mass. By evaluating muscle effectiveness through evaluation of cellular health, healthcare professionals now have a more useful indicator that may provide early warning for fall risk.

MA801 Body Composition Analyzer

Key Specifications

Bioelectrical Impedance Analysis (BIA)	25 Impedance Measurements: 5 frequencies (5kHz, 20kHz, 50kHz, 100kHz, 250kHz) for 5 segments (Right Arm, Left Arm, Trunk, Right Leg, Left Leg)
Electrodes	8-point Tactile Electrode Design
Display	1280 x 800 pixels, 10.1-inch color touchscreen LCD
Capacity / Graduation	Max Capacity 300kg (0.1kg graduation)
Applicable Age	6-85 years old
Output / Transmission	USB 2.0 x3, RS232 x1, Bluetooth, Wi-Fi, RJ45 Ethernet
Data Storage	100,000 Measurements (data transfer available via USB, Bluetooth, or Wi-Fi)
Measurement Duration	Less than 50 seconds
Device Dimensions	875 (L) x 463 (W) x 1205 (H): mm 33.4 (L) x 18.2 (W) x 47.4 (H): inches
Device Weight	About 31kg (68lbs)

Result Sheet Output

Body Composition Analysis	Intracellular Water, Extracellular Water, Total Body Water, Protein, Mineral, Body Fat Mass, Soft Lean Mass, Fat-Free Mass, Weight
Muscle-Weight Analysis	Weight, Skeletal Muscle Mass, Body Fat Mass
Obesity Analysis	Body Mass Index, Percent Body Fat, Waist-Hip Ratio
Abdominal Fat (L4-L5)	Visceral Fat, Subcutaneous Fat
Total & Segmental Analysis	Lean Mass (Whole Body, Right Arm, Left Arm, Trunk, Right Leg, Left Leg) Fat Mass (Whole Body, Right Arm, Left Arm, Trunk, Right Leg, Left Leg)
BIVA	Bioelectrical Impedance Vector Analysis
Phase Angle	50kHz whole-body phase angle percentiles for adults
Muscle Quality	Estimated grip strength (N, kg)
Health Score	Combined evaluation of body composition results
Percentage Body Fat Percentiles for Adults	Comparison of Percent Body Fat with comparable gender, age, ethnicity
Edema Index	Extracellular Water/Total Body Water Ratio
Research Information	Basal Metabolic Rate, Waist-Hip Ratio, Waist Circumference, Visceral Fat Area, Body Cell Mass, Right Arm Circumference, Left Arm Circumference, Arm Muscle Circumference, Total Body Water/Fat-Free Mass, Fat-Free Mass Index, Fat Mass Index, Skeletal Muscle Index
Impedance	5kHz, 20kHz, 50kHz, 100kHz, 250 kHz

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