



THE PROFESSIONAL'S GUIDE TO

# THE INBODY RESULT SHEET

Everything you need to know to interpret InBody  
Results and start offering your clients the insights  
they need to improve their health & well-being

## InBody

[InBody770]

ID	Height	Age	Gender	Test Date / Time
Jane Doe	163cm	41	Female	2017.03.08. 16:47

[www.inbody.com](http://www.inbody.com)

### Body Composition Analysis

	Values	Total Body Water	Soft Lean Mass	Fat Free Mass	Weight
Total Body Water(L)	35.5 (29.1 ~ 35.5)	35.5	45.6 (37.3 ~ 45.7)	48.3 (39.6 ~ 48.4)	66.4 (48.5 ~ 65.7)
Protein (kg)	9.5 (7.8 ~ 9.6)	non-osseous			
Minerals (kg)	3.28 (2.69 ~ 3.29)				
Body Fat Mass (kg)	18.1 (11.4 ~ 18.3)				

### InBody Score

81 / 100 Points

\* Total score that reflects the evaluation of body composition. A muscular person may score over 100 points.

### Visceral Fat Area

VFA<sub>(cm<sup>2</sup>)</sub>

200  
150

### Muscle-Fat Analysis

	Under	Normal	Over
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## INTRODUCTION

The **InBody Result Sheet**, if used properly, can be one of the most powerful tools at your disposal to guide, train, and care for your clients. To unlock the power of the InBody Result Sheet, you need to become familiar with how it reports information, and even more importantly, what you can do with it. That's where this e-book can help.

In this guide, you will find information that anyone dealing with health and well-being should be aware of to provide accurate recommendations to her patients or clients.

Over the next several pages, you'll learn how to read and interpret the InBody Result Sheet: What the terms mean, why they are valuable, what strategies can be used to implement this data into your activity.

If, after reading this e-book, you have any remaining questions, reach out to us at [info.eu@inbody.com](mailto:info.eu@inbody.com). An InBody Specialist will be happy to assist you.

Now, on to the Result Sheet!

\* The information provided in this document is to be used for educational/informational purposes only and does not constitute medical advice. Only certified medical & health professionals may diagnose patients and provide such advice. Some of the content and cases in this document are from the InBody USA blog.



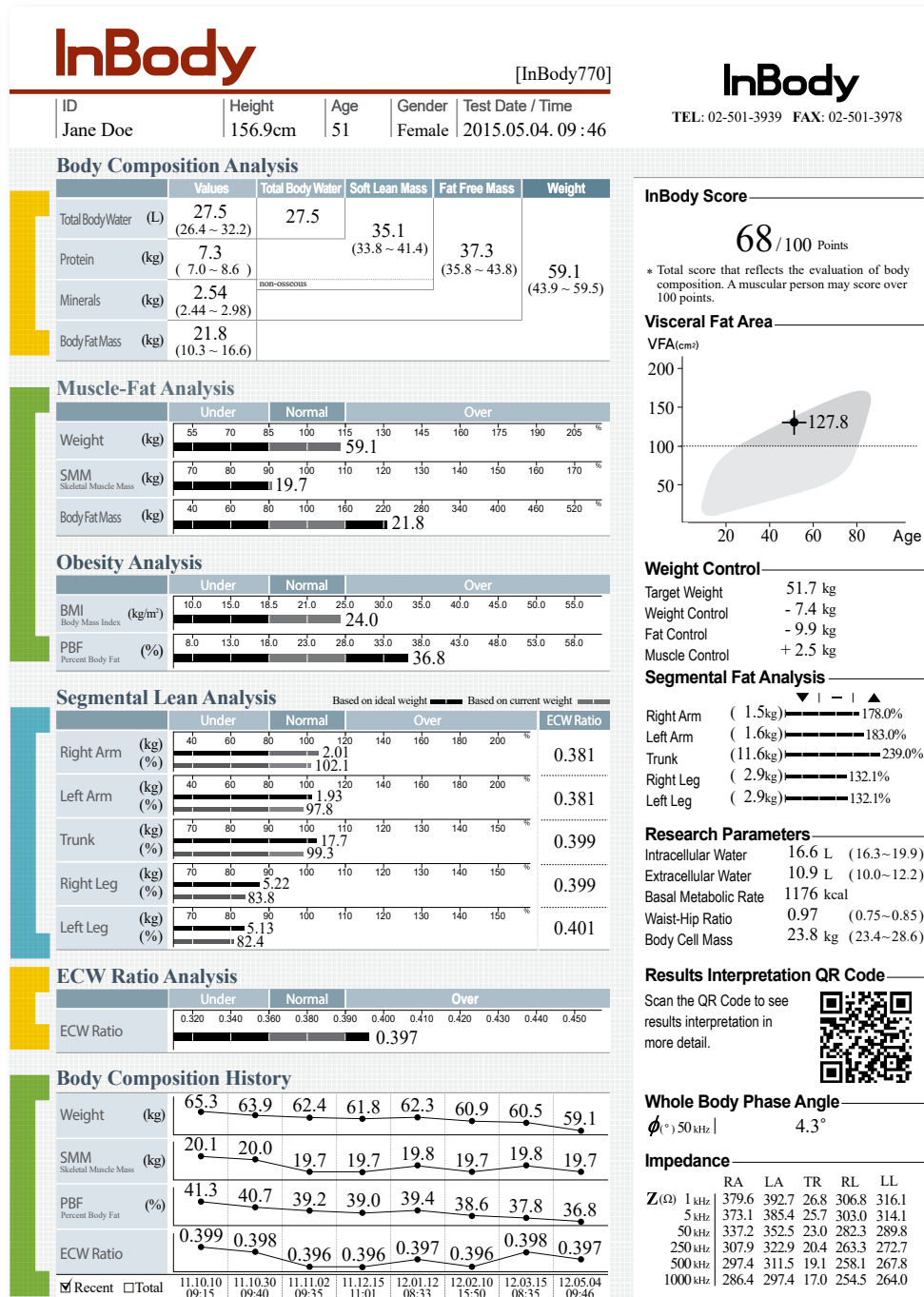
Below is the Result Sheet from our flagship model, the InBody 770. Although other InBody models don't have all these outputs, understanding this Result Sheet will help you understand any InBody Result Sheet. This e-book divides related portions of the Result Sheet in separate chapters. You can jump to a specific chapter by clicking on it on the Result Sheet below.

CHAPTER 1

CHAPTER 2

CHAPTER 3

CHAPTER 4



## HELPFUL TIP

Be on the lookout for boxes like these. These boxes will highlight practical uses for a section that will help you understand how to use the data.







## CHAPTER ONE

# BODY COMPOSITION AND BODY WATER ANALYSIS

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# BODY COMPOSITION ANALYSIS

In this section, you'll learn:

- How to understand a body composition breakdown
- How to determine if muscle growth has truly occurred
- How to identify fluid accumulation in the body

At the top of the result sheet is your client's basic body composition breakdown.

ID	Height	Age	Gender	Test Date / Time	
Jane Doe	156.9cm	51	Female	2015.05.04. 09 : 46	
Body Composition Analysis					
	Values	Total Body Water	Soft Lean Mass	Fat Free Mass	Weight
Total Body Water (L)	27.5 (26.4 ~ 32.2)	27.5	35.1 (33.8 ~ 41.4)	37.3 (35.8 ~ 43.8)	59.1 (43.9 ~ 59.5)
Protein (kg)	7.3 ( 7.0 ~ 8.6 )	non-osseous			
Minerals (kg)	2.54 (2.44 ~ 2.98)				
Body Fat Mass (kg)	21.8 (10.3 ~ 16.6)				

Depending on the model of InBody you're using, the breakdown may look a little different, but for all models the body composition analysis divides the body into four components (vertical). These components gradually build up to bigger categories until you get to the total body weight on the far right (horizontal).

In this example, taken from the InBody 770 Result Sheet, you can see how weight is broken down into Total Body Water, Protein, Minerals and Body Fat Mass. Total Body Water, Protein and Minerals together form the Fat Free Mass.



Starting from the top, you have Total Body Water. **Total Body Water** (TBW) can be divided into **Intracellular Water** (ICW) and **Extracellular Water** (ECW). This breakdown is available on the InBody 570, 770 and S10. See section “Body Water and ECW Ratio” for more info.

Body Composition Analysis					
	Values	Total Body Water	Soft Lean Mass	Fat Free Mass	Weight
Total Body Water (L)	27.5 (26.4 ~ 32.2)	27.5	35.1 (33.8 ~ 41.4)	37.3 (35.8 ~ 43.8)	59.1 (43.9 ~ 59.5)
Protein (kg)	7.3 ( 7.0 ~ 8.6 )	non-osseous			
Minerals (kg)	2.54 (2.44 ~ 2.98)				
Body Fat Mass (kg)	21.8 (10.3 ~ 16.6)				

Below Total Body Water you can find **Protein**. These proteins are part of the muscles, organs and bones. Proteins are crucial elements in the human body and all body cells contain protein. The proteins in the human body can be increased by the right nutrition and exercise.

Body Composition Analysis					
	Values	Total Body Water	Soft Lean Mass	Fat Free Mass	Weight
Total Body Water (L)	27.5 (26.4 ~ 32.2)	27.5	35.1 (33.8 ~ 41.4)	37.3 (35.8 ~ 43.8)	59.1 (43.9 ~ 59.5)
Protein (kg)	7.3 ( 7.0 ~ 8.6 )	non-osseous			
Minerals (kg)	2.54 (2.44 ~ 2.98)				
Body Fat Mass (kg)	21.8 (10.3 ~ 16.6)				

## BREAKING IT DOWN

Proteins reflect about 15% of the total body weight and are used as building material and energy source. Muscles are made up of mostly protein, therefore if you see your client's protein increase, it's very likely that they have truly gained muscle.



Below Total Body Water and Protein, you can find **Minerals**. Although this is an often underused section of the Result Sheet, it can reveal some very interesting insights. Minerals refers to the total amount of inorganic minerals that are dissolved in bone and body fluids which represents osseous and nonosseous minerals respectively.

Body Composition Analysis					
	Values	Total Body Water	Soft Lean Mass	Fat Free Mass	Weight
Total Body Water (L)	27.5 (26.4 ~ 32.2)	27.5	35.1 (33.8 ~ 41.4)	37.3 (35.8 ~ 43.8)	59.1 (43.9 ~ 59.5)
Protein (kg)	7.3 ( 7.0 ~ 8.6 )	non-osseous			
Minerals (kg)	2.54 (2.44 ~ 2.98)				
Body Fat Mass (kg)	21.8 (10.3 ~ 16.6)				

## BREAKING IT DOWN

Minerals account for only about 5-6% of the body weight and are not an energy source, but they are essential nutrients to maintain life and health. Most minerals are present in bones and teeth, except for a small amount of ionic constituents dissolved in body water.

Below Minerals you can find **Body Fat Mass**. This reports all of the body fat of the person that is tested, including both the surface level (subcutaneous) and internal (visceral) fat.

Body Composition Analysis					
	Values	Total Body Water	Soft Lean Mass	Fat Free Mass	Weight
Total Body Water (L)	27.5 (26.4 ~ 32.2)	27.5	35.1 (33.8 ~ 41.4)	37.3 (35.8 ~ 43.8)	59.1 (43.9 ~ 59.5)
Protein (kg)	7.3 ( 7.0 ~ 8.6 )	non-osseous			
Minerals (kg)	2.54 (2.44 ~ 2.98)				
Body Fat Mass (kg)	21.8 (10.3 ~ 16.6)				



By adding Total Body Water, Protein, and Minerals, you get Fat Free Mass (FFM) shown in the second column from the right. FFM, also referred to as lean body mass, is the weight of everything except body fat. This includes muscles, body water, bones, organs - everything that is not body fat.

Body Composition Analysis						
	Values	Total Body Water	Soft Lean Mass	Fat Free Mass	Weight	
Total Body Water (L)	27.5 (26.4 ~ 32.2)	27.5	35.1 (33.8 ~ 41.4)	37.3 (35.8 ~ 43.8)	59.1 (43.9 ~ 59.5)	
Protein (kg)	7.3 ( 7.0 ~ 8.6 )	non-osseous				
Minerals (kg)	2.54 (2.44 ~ 2.98)					
Body Fat Mass (kg)	21.8 (10.3 ~ 16.6)					

Most of the time, an increase in FFM reflects an increase in muscle (which you can also see as an increase in Protein), and is considered a positive improvement in body composition. However, people who do not maintain normal body water ratios may have increased FFM due to swelling caused by certain health conditions.

#### EXTRAS FOR THIS SECTION ON THE INBODY BLOG

- Body Composition 101: The Beginner's Guide
- Unpacking Body Composition Lingo
- Your Body and You: A Guide To Body Water

[Read](#)
[Read](#)
[Read](#)


# BODY WATER AND ECW RATIO ANALYSIS

In this section, you'll learn:

- What ICW and ECW is
- How to recognize a water imbalance

**I**ntracellular water (ICW) is the amount of body water held within the body's cells; Extracellular water (ECW) is the amount of body water outside the cells, such as blood, lymph or interstitial fluids. Both ICW and ECW volume level can be found on the right side of the InBody result sheet. Intracellular water (ICW) is the amount of body water held within the body's cells, and it is mostly contained within muscles.

## Body Water Composition

Total Body Water	27.5 L	(26.4 ~ 32.2)
Intracellular Water	16.6 L	(16.3 ~ 19.9)
Extracellular Water	10.9 L	(10.0 ~ 12.2)

## BREAKING IT DOWN

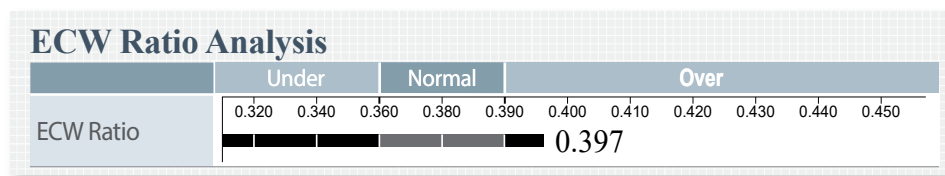
Both of these sections are useful in their own right, but monitoring Extracellular Water in particular has a lot of very pertinent uses to health professionals.

If you notice an increase in ECW, but not ICW, this could be the presence of internal swelling and/ or inflammation.

Because muscle cells contain the most ICW, it is very likely that an increase of the amount of ICW reflects an increase of muscle mass.



The ECW Ratio Analysis describes the ratio of ECW to TBW. It can be a more insightful parameter than the absolute values of ICW and ECW. Most healthy people will have an average ratio of around 0.380, with the acceptable range being between 0.360 – 0.390. Anything beyond 0.390 may indicate excess ECW or low ICW. Excess ECW ratio denotes an accumulation of extracellular fluid and can be caused by such as inflammations, swellings or other medical conditions. Low ICW values usually denote low muscle mass.



On healthy individuals, you will usually see minor fluctuations in the ECW Ratio; that's normal. This output is primarily used to give context to another section – the Segmental Lean Analysis.

### BREAKING IT DOWN

This graph lets you quickly understand if your client has some sort of swelling in his or her body, either in a specific area (like in the case of an injury) or present throughout the entire body (often seen in individuals with medical conditions).

You can also use this to give context to FFM. High FFM and a high ECW/ TBW ratio usually indicates the presence of excess body water – not just muscle mass.



## CHAPTER TWO

# MUSCLE-FAT, AND OBESITY ANALYSIS

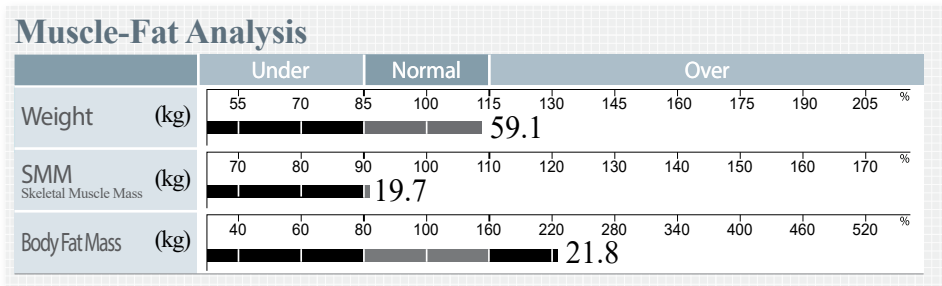
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# MUSCLE-FAT ANALYSIS

In this section, you'll learn:

- How to quickly identify common body compositions
- How to tell if someone is under, over, or normal in terms of weight, muscle mass, and fat mass

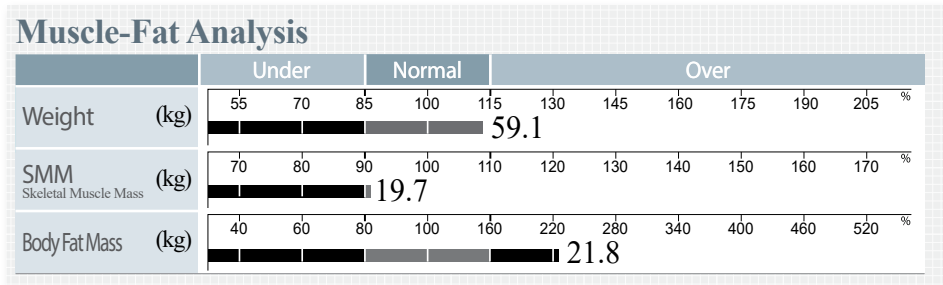


**F**or many people, this section of the Result Sheet is one of their favorite sections.

Why? Because it allows you to categorize different body types more easily. This section makes it simple for you to give your clients a good, general idea about their current overall body composition and what changes they need to make.



## HOW TO READ THE NUMBERS AT THE TOP:



The 100% mark, as well as all the percentage marks above the bar graphs, are all based on what is considered ideal for an individual of **the specific height and gender they fill in when doing a test**. It allows you to compare your client to others of the same height and gender.

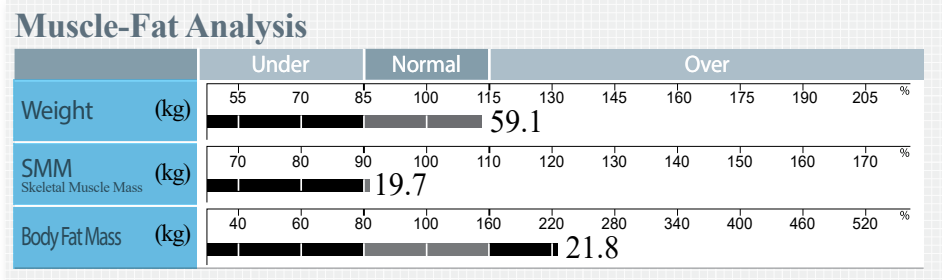
While the healthy range varies as shown above, 100% designates the ideal for individuals with the same height and gender. So, if the weight bar **extends to 130%**, this would mean that the person who you are testing is **30% above ideal**.

Similarly, if your client's weight bar extended to 70%, this would mean that your client has 30% less mass than is considered ideal for their height and gender.

## BREAKING IT DOWN

This graph lets you show your client how their body composition compares against people of the same height and gender.

## THE OBESITY ANALYSIS HAS THREE COMPONENTS:

**| WEIGHT**

Weight reflects the Total Body Weight

**| SKELETAL MUSCLE MASS (SMM)**

The Skeletal Muscle Mass is the total weight of your client's skeletal muscles. These are the muscles that can be grown and developed through exercise. Unlike FFM, which includes everything that isn't body fat, you can view an increase in SMM as actual gain of muscle mass.

**| BODY FAT MASS**

This is how much body fat your client has, and includes both the subcutaneous fat and visceral fat.

The Muscle-Fat Analysis also tells you whether your client has a healthy balance of SMM and Body Fat Mass in respect to his or her Total Body Weight.

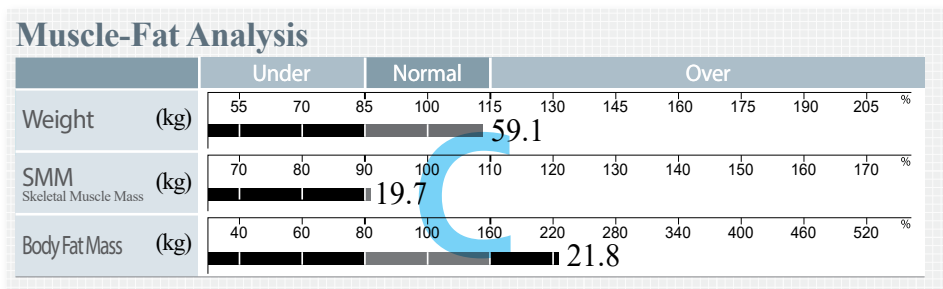
**BREAKING IT DOWN**

The Muscle-Fat Analysis graph allows you to get a rough understanding of your client's overall body composition in one quick glance. By looking at the length of each bar and how they compare to each other, you can better understand how to help your clients to reach their goals.

## THE BASIC BODY TYPES: “C-SHAPE”

The three values presented in the Muscle-Fat Analysis are arranged in such a way as to make it simple and easy to make general observations about your client’s body composition.

You do this by forming one of the three “shapes” by connecting the endpoints of the Weight, SMM, and Body Fat Mass bars.



A C-shaped individual has a shorter bar for SMM compared to Weight and Body Fat Mass. Although this is characteristic of someone who is overweight or obese, you may see this shape in someone who is normal or underweight, too.

## BREAKING IT DOWN

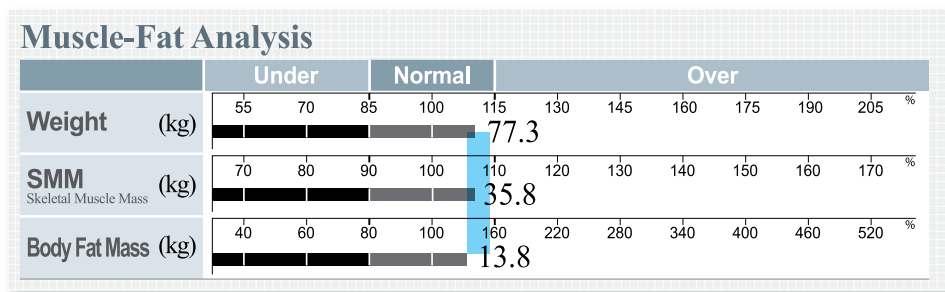
You would want to counsel a client with a Muscle-Fat Analysis graph that looks like this to reduce their Body Fat Mass (which would also lower their Weight) while improving their Skeletal Muscle Mass. Helping this person improve to an I-Shape, and eventually a D-Shape, is the goal. For each of these shapes it remains important to have the Body Fat Mass within the normal or under range for a healthy body composition.



## THE BASIC BODY TYPES: “I-SHAPE”

An I-shaped individual has a “balanced” body composition, meaning their Weight, Skeletal Muscle Mass, and Body Fat Mass bars roughly form a straight line.

Although people with this body composition are often at a healthy weight or healthy body fat percentage, they can still have health risks if they have too much body fat.



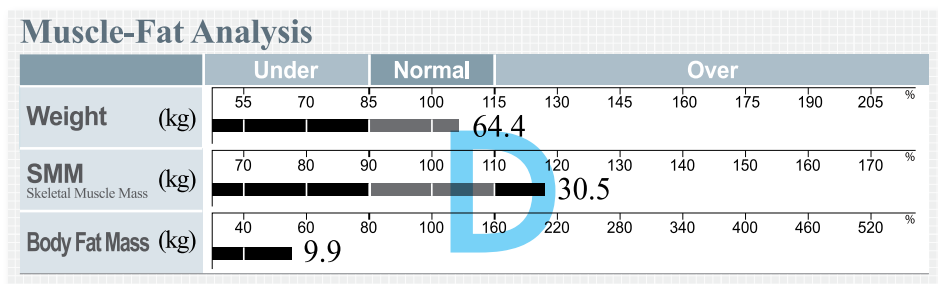
## BREAKING IT DOWN

If you're working with a client that has an I-shaped body composition, you should find out what their overall health goals are before making recommendations.

Typically, I-shaped people are usually in a good position to focus on building muscle to gain strength and size, or lose body fat in order to improve overall leanness.

## THE BASIC BODY TYPES: “D-SHAPE”

A D-shaped person has a longer SMM bar than both their Weight and Body Fat Mass bars. This is indicative of an “athletic” body type and is considered to be the ideal body composition shape.



If you are working with a client who has this type of body composition, they likely already have specific fitness goals in mind, and your job will be to help them reach those goals.

## BREAKING IT DOWN

Your client may want to improve their strength and size. In that case, you would want to monitor their SMM bar and Body Fat Mass bars to make sure that SMM increases without a significant increase in Body Fat Mass.

Others may want to work on their leanness and lose body fat. For a client with this goal, loss of Body Fat Mass should be monitored while taking care to mitigate loss of SMM. If SMM loss becomes too great, you should make adjustments.

### EXTRAS FOR THIS SECTION ON THE INBODY BLOG

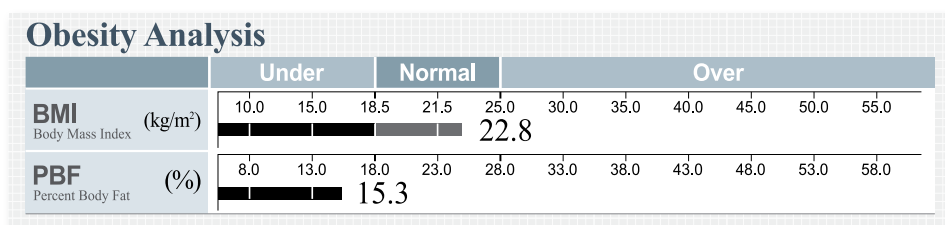
- Why Building Lean Mass Is Important For Everyone (yes even you)
- 5 Things You Didn't Know About Muscle and Fat

[Read](#)
[Read](#)


# OBESITY ANALYSIS

In this section, you'll learn:

- How to assess your client's percent body fat
- If your client's body weight and BMI hides their health risks from excess body fat

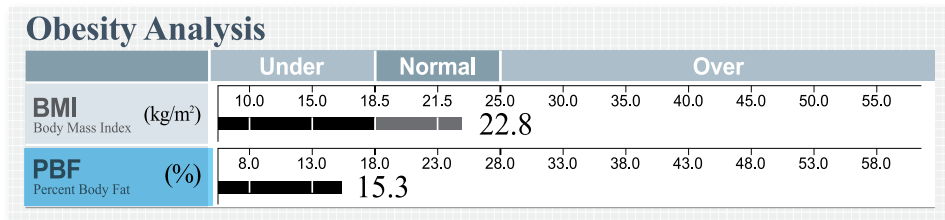


**T**he Obesity Analysis includes the signature metric of any body composition analysis: **Percent Body Fat (PBF)**.

It's a deceptively simple metric – a division of body fat mass by total weight – but it is a much better indicator of the risk of obesity than BMI. One of the major reasons BMI is still included in the analysis is to highlight its flaws by comparing it to PBF.



## WHAT'S THE DIFFERENCE BETWEEN BMI AND PBF?



On the InBody Result Sheet, you'll see a set of ranges for BMI and PBF. According to the World Health Organization (WHO) 18.5 – 24.99 kg/m<sup>2</sup> is the normal range for BMI. This normal range is presented on the InBody Result Sheet. The InBody device can be programmed to use a different range.

For PBF, the ranges differ for men and women, as women tend to carry more body fat than men due to their reproductive system as well as genetics. The example above is a graph that represents a female individual, and the normal range for females is set at 18-28%, with the average being 23%.

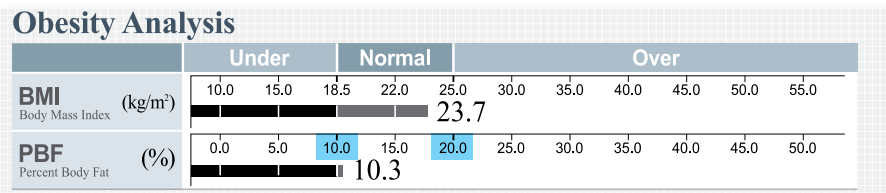
## BREAKING IT DOWN

You can show your client their Percent Body Fat to help them understand their health and physical fitness better. BMI should not be used for this. According to the WHO, BMI is a population-level measure of obesity, and a rough guide for individuals.

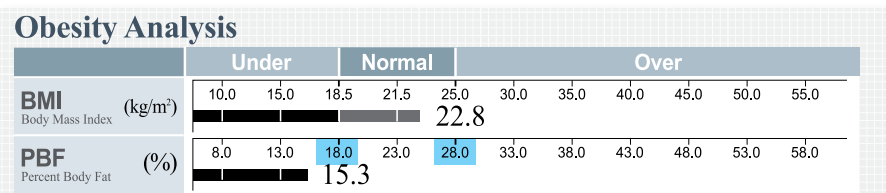


## THE HEALTHY RANGE

For men, the healthy range is between **10-20%**



For women, the healthy range is between **18-28%**



If you'd like more information on how InBody sets the PBF ranges for men and women, send an email to [info.eu@inbody.com](mailto:info.eu@inbody.com)

## EXTRAS FOR THIS SECTION ON THE INBODY BLOG

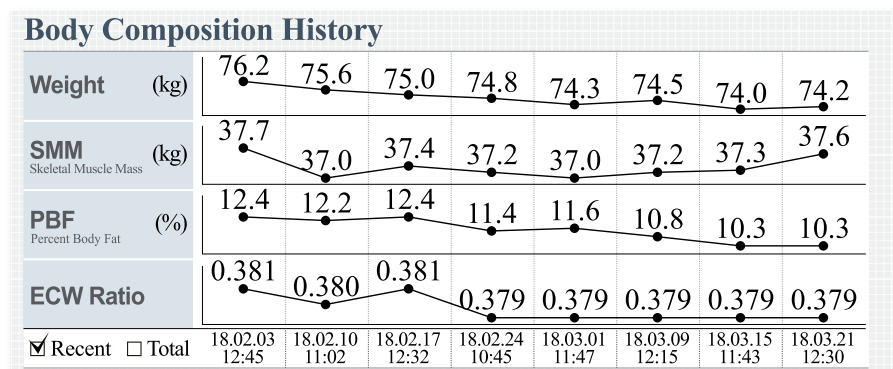
- Why You Need To Know Your Body Fat Percentage
- BMI's Fat Secret

[Read](#)
[Read](#)

# BODY COMPOSITION HISTORY

In this section, you'll learn:

- How to recognize trends in body composition
- How to identify positive or negative changes in body composition with respect to weight

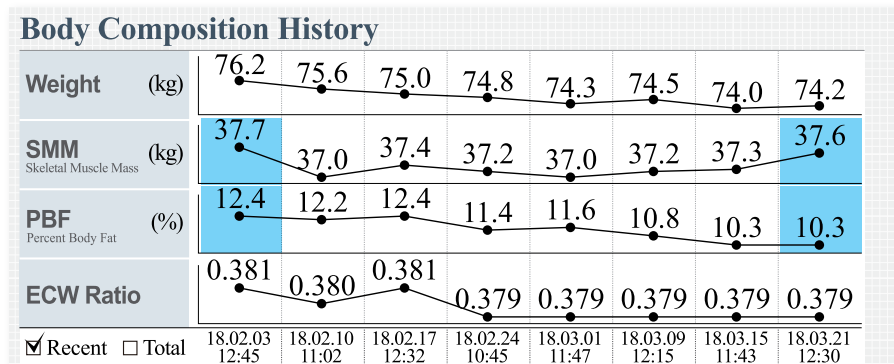


At the bottom of the Result Sheet is the **Body Composition History**, which automatically tracks some of the most important body composition metrics. This makes it really easy to identify trends over time.

Take, for example, the results above. These results represent an athletic, D-shaped individual whose goal was to gain muscle and lose body fat.



## TRACKING POSITIVE CHANGE



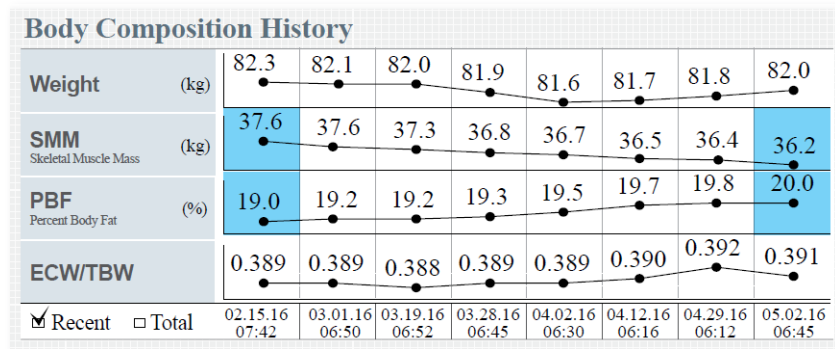
As you can see, the program this individual adopted has clearly been successful. In about two months, his weight decreased by 2 kg, yet he **maintained 37.6 kg of muscle mass** and decreased his **percent body fat by 2.1%**. By any measure, this would be an indication of great success!

## BREAKING IT DOWN

If your client's results look like the above example, the current exercise and/or diet regimen they've adopted would appear to be effective. Little modifications to diet or exercise are likely needed, but you should continue to monitor trends carefully.

## TRACKING NEGATIVE CHANGE

The Body Composition History also makes it easy to raise red flags when negative changes in body composition occur, especially when they are disguised by a seemingly “positive” change of reduced body weight.



If you have a client whose graph looks similar to the one above, by testing this client's body composition and seeing their overall trend, you would be able to see that the weight loss is due to the **slow loss of muscle, leading to a higher Percent Body Fat**.

## BREAKING IT DOWN

A graph like this can be a real eye-opener for a client because it shows that negative changes in body composition can occur if his or her weight remains the same or even decreases for the wrong reason.

This person needs to be guided towards a solution that helps them retain their muscle mass with some combination of nutrition and strength training.

## EXTRAS FOR THIS SECTION ON THE INBODY BLOG

- Why Tracking Changes in Body Composition Leads To Results
- How To Set a Body Composition Goal That's Right For You

[Read](#)
[Read](#)




## CHAPTER THREE

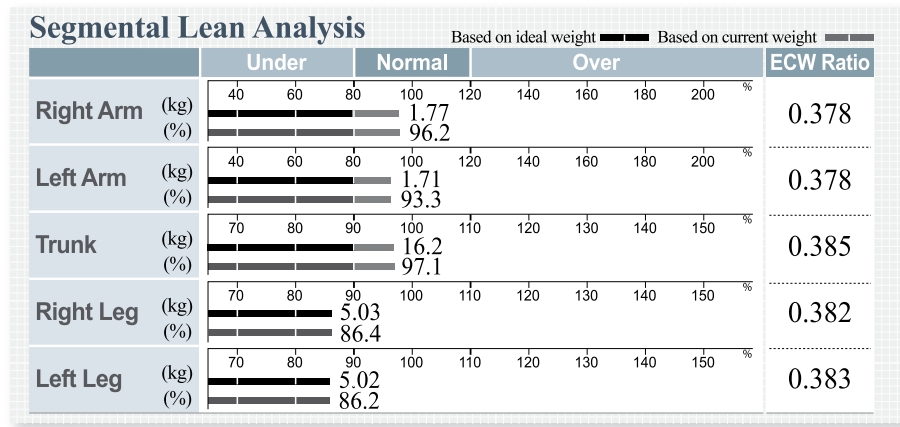
# SEGMENTAL LEAN ANALYSIS

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# SEGMENTAL LEAN ANALYSIS

In this section, you'll learn:

- How to spot problem areas in your client's development
- How your client compares to others
- If your client is sufficiently developed in all sections of their body
- If your client has muscle imbalances



There are many valuable outputs on the Result Sheet. However, the Segmental Lean Analysis, if used properly is arguably **the most powerful section** of the Result Sheet.



## FAT FREE MASS VS. MUSCLE MASS

The information in the Segmental Lean Analysis shows how much Fat Free Mass is contained in each segment; not how much “muscle” is in each segment.

This is an important distinction. While it is true that Skeletal Muscle Mass gains in a body segment will be reflected as gains in the Segmental Lean Analysis chart, **not every gain in Fat Free Mass can be explained by muscle mass**. That’s because Fat Free Mass is the sum of all the non-fat components in the body. In other words, it is the sum of Total Body Water, Protein and Minerals. Therefore, Fat Free Mass can be influenced both by muscle mass and body water.

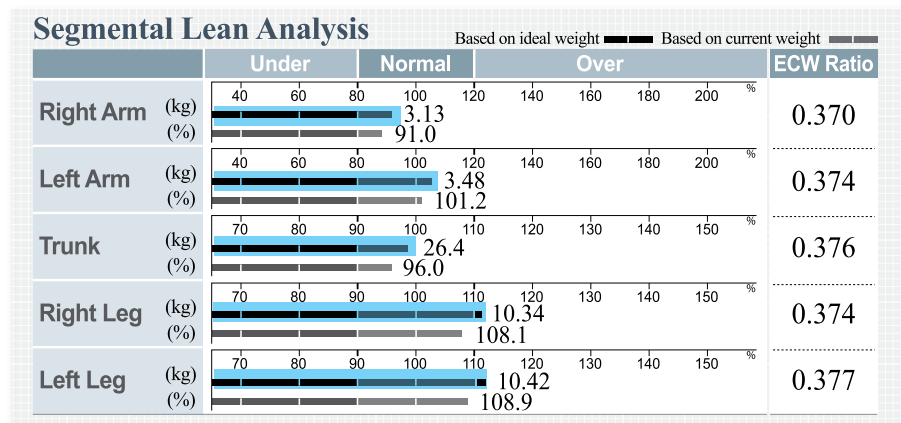
In other words, if the person has edema because of an injury or a disease, the increase of body water affects the Fat Free Mass and therefore the Segmental Lean Analysis. By comparing Segmental Lean Analysis and ECW ratio together, InBody can identify whether the increased amount came from the muscle mass or overhydration. This makes this chart useful not just for tracking muscle, but also for injury and disease states.



## TOP AND BOTTOM BARS

The InBody divides the body into **five body segments**: the two arms, the two legs, and the trunk, which can be thought of as covering the area between the neck and legs. The information for each body segment is reported in two bars.

### | THE TOP BAR

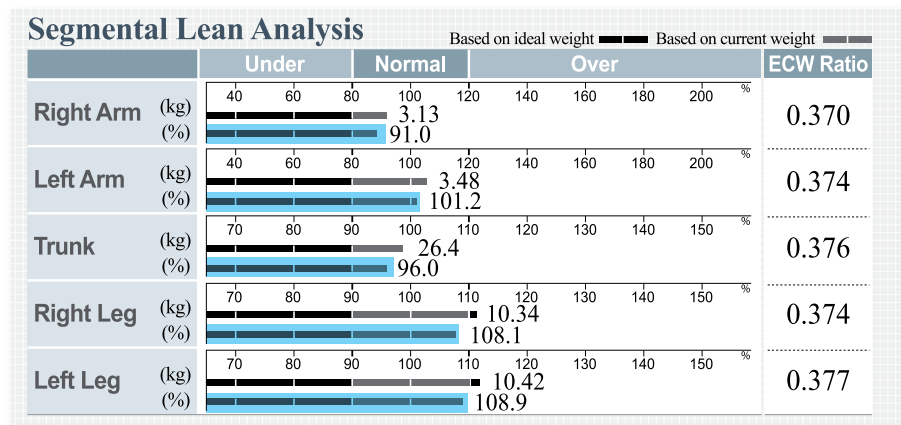


The **top bar** shows how much Fat Free Mass in kg a given segment contains. Just like with the Muscle-Fat Graph, the top bar of the Segmental Lean Analysis compares the kg of Fat Free Mass against the ideal expected amount of Fat Free Mass for that person's height and gender.



## THE BOTTOM BAR

- The **bottom bar** is different from the top bar. The number shown by the bottom bar is a percentage and it's comparing your client's Fat Free Mass to **their current body weight**. It shows whether or not your client has enough Fat Free Mass to **support their own body weight**, where 100% reflects a sufficient amount of Fat Free Mass.



This bar can be considered as more insightful compared to the upper bar. Why is that? Because it assesses your muscle mass compared to your own weight, and not to an absolute standard. For example, an obese individual will need more muscle than a skinny one to sustain his or her own body weight.

Your clients should always work to be at **100% or higher**.

## BREAKING IT DOWN

In the above example, the two lower body segments are over 100%, but two of the three upper body segments are not.

If you're working with a client like this, they may benefit from exercises that target Lean Body Mass development in their upper body. This will help them achieve a more balanced body composition and may have other positive effects, such as body fat reduction, as well.



## WHICH CLIENTS MAY BE AT RISK FOR UNDERDEVELOPED FAT FREE MASS?

Any person can theoretically be underdeveloped in a body segment, and without Segmental Lean Analysis, identifying this can be difficult. However, several groups of clients may be at more risk than others. Here are three examples.

### 1. Sedentary adults

Sedentary adults who do not exercise commonly, often have below 100% Segmental Lean Mass, especially in their legs. This is primarily due to jobs that require them to sit throughout most of the day.

### 2. “Skinny Fat” individuals (sarcopenic obese)

People with “**skinny fat**” profiles have a normal body weight and a slim looking appearance. However, they have more fat than is healthy for their bodies, coupled with a low amount of Fat Free Mass. Their relatively overdeveloped fat mass and underdeveloped muscle mass contributes to their body weight, and may result in scores below 100% for one or more body segments.

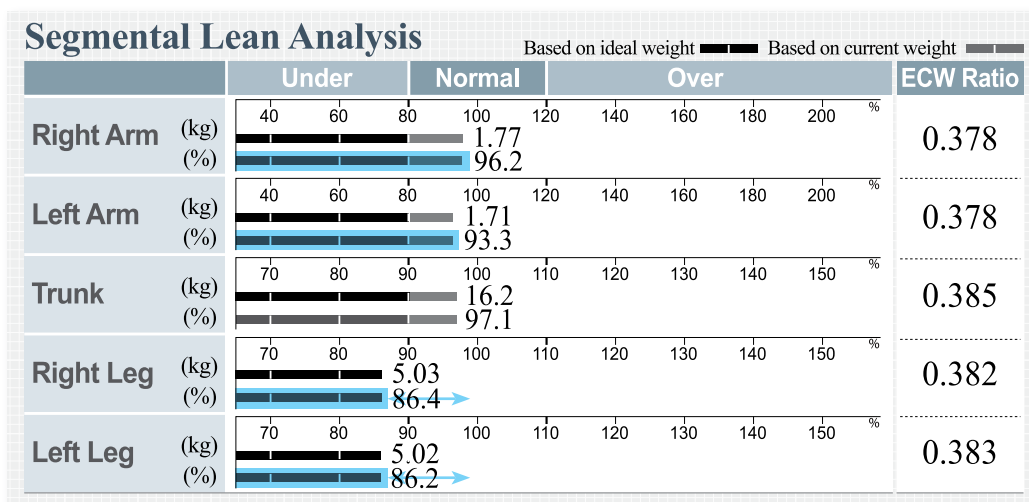
### 3. The elderly

The elderly are at particular risk for not having sufficiently developed Fat Free Mass due to their tendency to lose muscle as a result of increasing inactivity. This impacts their ability to care for themselves as they age and puts them at greater risk of falling and potentially breaking bones.



## UPPER/LOWER MUSCLE IMBALANCE

Upper/lower body imbalances are fairly common in today's increasingly sedentary workforce. You will likely encounter cases like the example below, where the muscle mass in the upper body is well developed while the muscle mass in the lower body is under developed. A difference larger than one bar width is considered a 'light imbalance'. If the difference is larger than two bar widths, we speak of an 'extreme imbalance'.

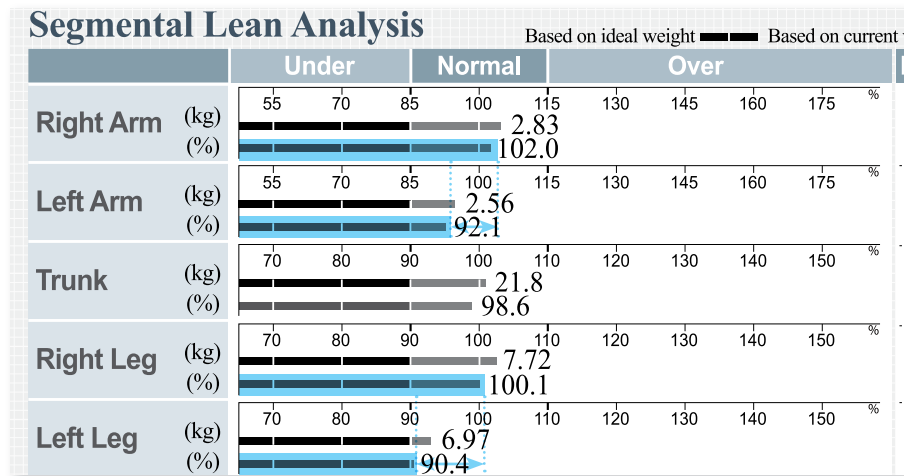


## BREAKING IT DOWN

If your client looks like this, he or she needs to increase the FFM in their legs. Even though the upper body is sufficiently developed, the lower body is still at risk for injury due to the low amount of Fat Free Mass. This client, despite their upper body, risks developing health issues if they keep this body composition.

## RIGHT/LEFT MUSCLE IMBALANCE

Another imbalance the Segmental Lean Analysis can reveal is the imbalance between the right and left arms and/or legs.



This client has a slight imbalance between the right and left arm and an extreme imbalance between the right and left leg. An imbalance between the arms of 6-10% is defined as a slight imbalance and over 10% as an extreme imbalance. For an imbalance between the legs, a difference of 3-5% is defined as a slight imbalance and over 5% as an extreme imbalance. There are many reasons why this could have occurred: For example, an injury can cause swelling and cause the FFM values to go up.

## BREAKING IT DOWN

If you are working with a client whose body composition shows an imbalance, it is helpful to find out more about his or her medical history to determine whether an imbalance is due to swelling or underdeveloped FFM.

## EXTRAS FOR THIS SECTION ON THE INBODY BLOG

- Fat Free Mass vs. Skeletal Muscle Mass: What's the Difference?
- Does Muscle Turn Into Fat?

[Read](#)
[Read](#)




## CHAPTER FOUR

# CUSTOMIZABLE OUTPUTS

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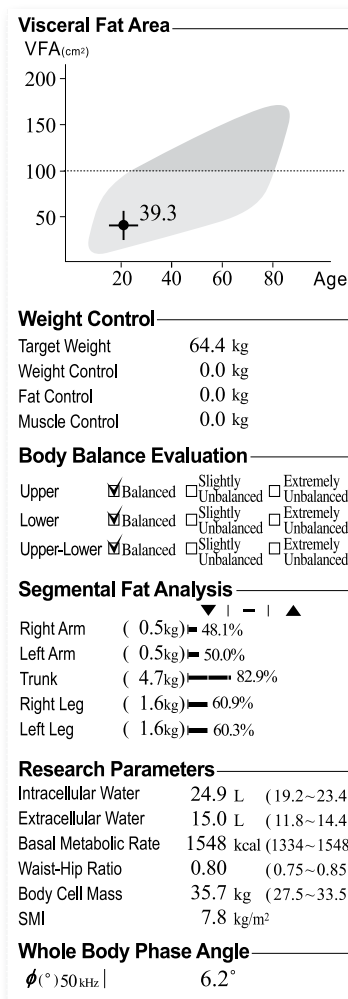
# CUSTOMIZABLE OUTPUTS

In this section, you'll learn:

- How to track visceral fat and segmental fat
- How to guide a client to their average weight
- How to use research parameters to offer nutritional guidance

On the right hand side of the Result Sheet are a series of additional outputs that you can mix and match to suit your needs. Depending on which InBody unit you are using, the available outputs may vary.

In the following pages, you'll learn about five of the most used outputs. All of these are available on the InBody 770. These are:



→ Visceral Fat Area

→ Weight Control

→ Segmental Fat Analysis

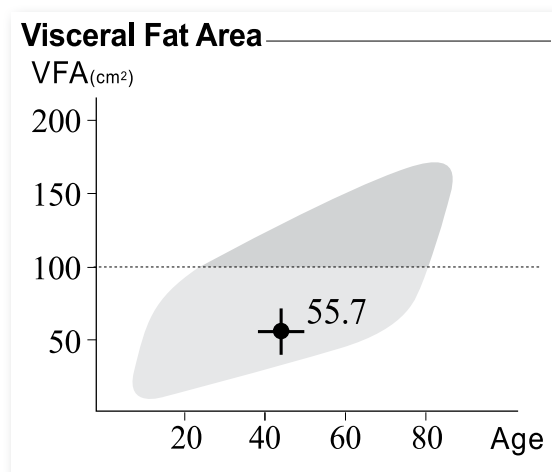
→ Research Parameters

→ Phase Angle



## VISCERAL FAT AREA

As you may know, there are two main types of body fat: **subcutaneous** and **visceral** fat. Visceral fat is the fat stored in the abdominal cavity around the organs. The Visceral Fat Area graph allows you to determine how much visceral fat your client has.



The graph looks a bit complicated but is actually quite simple to read. The “100” on the left side of the graph represents 100 cm<sup>2</sup> of visceral fat.

You should advise your clients to stay below this line for optimal health and to reduce health risks.

## BREAKING IT DOWN

Research has found that visceral fat is particularly influenced by cardiovascular exercise. Encouraging your client to engage in more cardiovascular exercise may improve his or her health by promoting loss of visceral fat.

\* Visceral Fat Level on InBody 570 Result Sheet

## WEIGHT CONTROL

This section makes it incredibly simple to set goals for your client. It is designed to help your client reach their ideal body composition, which corresponds with the ideal fat percentage for each gender (15% for males, 23% for females).

### Weight Control

Target Weight	74.7 kg
Weight Control	- 2.6 kg
Fat Control	- 2.6 kg
Muscle Control	0.0 kg

Depending on your client's current Muscle-Fat balance, this section of the Result Sheet will recommend adjusting fat mass and/or lean mass in order to reach the target weight.

If your client has too much fat, the InBody will advise losing a certain amount of fat mass (kg) and maintaining or increasing muscle mass. The InBody will never recommend losing muscle mass.

In addition, the InBody result sheet shows the InBody Score. This score is calculated based on the weight control, by deducting the value of Fat Control and Muscle Control from 80. An InBody Score between 70 and 90 reflects a normal balance between fat mass and lean mass. An InBody Score of above 90 reflects a person with extra lean mass, often caused by the amount of muscle mass.

## BREAKING IT DOWN

These recommendations are meant to be general guidelines for helping individuals achieve optimal health. However, your clients may have their own set of goals, and these should be discussed prior to planning a routine to reach those goals.





## SEGMENTAL FAT ANALYSIS

**Segmental Fat Analysis**

		▼   —   ▲	
Right Arm	( 0.8kg)	████████	123.3%
Left Arm	( 0.7kg)	████████	103.2%
Trunk	( 7.0kg)	████████	156.1%
Right Leg	( 2.2kg)	████████	121.9%
Left Leg	( 2.2kg)	████████	121.8%

The segmental fat analysis shows the amount of fat mass in each segment. In the above example, the person has 7.0 kg of body fat in their trunk. For a person of their height and gender, that's 156.1%, or **56.1% more body fat than ideal** for a person with the this height and gender. Segmental Fat Analysis is an estimated value based on other body composition results, and can be used to guide your client consultations. The normal range for Segmental Fat, represented by the two small vertical lines, is 80-160%.

## BREAKING IT DOWN

This section can be used to track your client's improvements in body composition and changes in body fat over time. While studies have shown that you can't "spot target" body fat with exercise, you can use this section to encourage your clients and give them a more detailed account of the improvements they are making.

## RESEARCH PARAMETERS

For the research parameters, nutritional outputs and estimated parameters are provided; Intracellular Water (ICW), Extracellular Water (ECW), Basal Metabolic Rate (BMR), Waist-Hip Ratio (WHR), Body Cell Mass (BCM), Skeletal Muscle Mass Index (SMI) etc.

**Research Parameters**

Intracellular Water	29.0 L	(24.6~30.0)
Extracellular Water	17.4 L	(15.0~18.4)
Basal Metabolic Rate	1741 kcal	
Waist-Hip Ratio	0.81	(0.80~0.90)
Body Cell Mass	41.5 kg	(35.2~43.0)
SMI	8.5 kg/m <sup>2</sup>	

Intracellular and Extracellular Water show the amount of water within and outside of the body cells. For healthy people, ICW:ECW ratio is normally 3:2. Thus, it is important to see ECW ratio rather than focusing on an absolute value.

BMR is the number of calories you need in order to maintain the basic essential functions of the human body. See page 40 for more details.

The Waist-Hips Ratio shows the ratio between an estimate of the waist circumference (at the level of the belly button) and of the hips. A narrow waist and wider hips result in a value below one. Large waist (abdominal circumference) is likely to result into a value above one.

BCM is the total mass of all cellular elements in the body, which constitutes all metabolically active tissues of the body. It includes the ICW and protein, which are the main components of muscle tissue. BCM does not include ECW, so it can be used to get insight in the muscle mass status of patients with edema.

Lastly, SMI can be obtained by dividing the sum of the appendicular Fat Free Mass with Height(m)<sup>2</sup>. Using the SMI parameter, you can diagnose sarcopenia and monitor nutritional status.



## PHASE ANGLE

Phase Angle gives insight in the cellular health and the fluid balance of the body. Healthy cells have a strong isolating cell membrane and sufficient intracellular water. Cell membranes assure protection of what is in the cells and regulate what goes in and out of the cells. Healthy cells are better at preventing unwanted substances from entering cells.

**Whole Body Phase Angle** \_\_\_\_\_  
 $\phi(^{\circ})_{50\text{kHz}}$  | 6.2°

During an impedance measurement, small alternating currents are sent through the body and the voltage is measured. When the current encounters a cell it will pass through the cell membrane directly. However, the cell membrane acts as a barrier to the voltage, therefore the voltage needs to build up enough energy to pass through the cell wall. This causes a delay of the voltage passing through the cell. The small time difference between current and voltage can be expressed in degrees, providing us with a Phase Angle. The healthier the cell membrane, the larger the delay of the voltage. This will lead to a higher Phase Angle. In other words, the healthier the cell membrane, the higher the Phase Angle. This value can be seen for each specific segment as well.

Lower Phase Angles occur in people with low Muscle Mass, edema, malnutrition or people with certain diseases. In addition, Phase Angle also decreases with age. Improving the body composition will improve the Phase Angle.

### EXTRAS FOR THIS SECTION ON THE INBODY BLOG

• Your Body and You: A Guide to Phase Angle

[Read](#)



## BASAL METABOLIC RATE (BMR)

The Basal Metabolic Rate, or BMR, is the number of calories your client needs in order to maintain their basic essential functions. This value allows you to **guide your clients' nutritional plans**, which is essential to helping them reach their body composition goals.

Basal Metabolic Rate    1741 kcal

Your clients might not fully understand what the BMR is, and they may think that their BMR is the number of calories they should eat in a day - **This is NOT the case!**

BMR does not take into account any calories needed to perform daily activities, and so your client's actual caloric need for the day is likely **much higher than their BMR**.

### EXTRAS FOR THIS SECTION ON THE INBODY BLOG

- How To Use BMR To Hack Your Diet
- Your Metabolism and Your Body Composition

[Read](#)[Read](#)



## CHAPTER FIVE

# OTHER OUTPUTS

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# OTHER OUTPUTS

In this section, you'll learn:

- About the outputs you can select to display on the right-hand side of the result sheet and that have not yet been discussed in previous chapters

The right side of the result sheet can display a wide range of additional outputs, that can be really helpful in research, but also to monitor individuals with specific medical conditions.

## VISCERAL FAT LEVEL

Devices other than the InBody 770 show visceral fat as a level and not as a graph. As mentioned before, there are two types of body fat: subcutaneous fat and visceral fat. Visceral fat is the body fat surrounding the organs. With the Visceral Fat Level, you will get an indication of the amount of visceral fat in comparison to the average. For optimal health it is best to advise and guide your clients to a visceral fat level below 10. Above a level of 10, a person has a higher risk of diseases.

Basal Metabolic Rate	1149	kcal
Waist-Hip Ratio	1.00	(0.75 ~ 0.85)
Visceral Fat Level	14	( 1 ~ 9 )
Obesity Degree	112	% ( 90 ~ 110 )
Bone Mineral Content	2.15	g ( 2.05 ~ 2.51 )



## BONE MINERAL CONTENT

The Bone Mineral Content shows the amount of minerals that make up the bones in the body. Sufficient bone minerals are important for strong bones and to reduce the risk of bone fractures.

Visceral Fat Level	14	( 1 ~ 9 )
Obesity Degree	112 %	( 90 ~ 110 )
Bone Mineral Content	2.15 kg	(2.05 ~ 2.51)
Body Cell Mass	22.8 kg	(23.9 ~ 29.3)
Arm Circumference	29.6	

## BODY BALANCE EVALUATION

The Body Balance Evaluation gives a synthetic and intuitive recap of the segmental analysis. It shows whether there is an imbalance in lean mass between different segments of the body. 'Upper' shows the balance between right and left arm. 'Lower' shows the balance between right and left leg. 'Upper-Lower' shows the balance between the average lean mass of the arms and the average lean mass of the legs.

Aim for a good balance between the lean mass of the different segments to reduce the risk of injury.

### Body Balance Evaluation

Upper	<input type="checkbox"/> Balanced	<input checked="" type="checkbox"/> Slightly Unbalanced	<input type="checkbox"/> Extremely Unbalanced
Lower	<input checked="" type="checkbox"/> Balanced	<input type="checkbox"/> Slightly Unbalanced	<input type="checkbox"/> Extremely Unbalanced
Upper-Lower	<input checked="" type="checkbox"/> Balanced	<input type="checkbox"/> Slightly Unbalanced	<input type="checkbox"/> Extremely Unbalanced

## FAT MASS INDEX (FMI)

The Fat Mass Index shows the amount of fat mass in relation to the height squared (in meters). By normalizing to height, the index value tells us more about the health status of the body.

TBW/FFM	73.8 %
FFMI	15.2 kg/m <sup>2</sup>
FMI	8.9 kg/m <sup>2</sup>
Whole Body Phase Angle	

## FAT FREE MASS INDEX (FFMI)

The Fat Free Mass Index shows the amount of fat free mass in relation to the height squared (in meters). By normalizing to height, the index value tells us more about the health status and nutritional needs of the body. This value can be used to determine nutritional requirements.

Arm Muscle Circumference	25.5 cm
TBW/FFM	73.8 %
FFMI	15.2 kg/m <sup>2</sup>
FMI	8.9 kg/m <sup>2</sup>
Whole Body Phase Angle	



## SEGMENTAL ICW

The Segmental ICW shows the amount of intracellular water per segment. Muscles contain a lot of intracellular water. An increase in muscle mass will therefore almost always be accompanied by an increase in intracellular water.

**Segmental ICW Analysis**

Right Arm	1,66 L	( 0,94~1,42 )
Left Arm	1,49 L	( 0,94~1,42 )
Trunk	12,8 L	( 9,7~11,8 )
Right Leg	5,29 L	( 3,37~4,11 )
Left Leg	5,38 L	( 3,37~4,11 )

## SEGMENTAL ECW

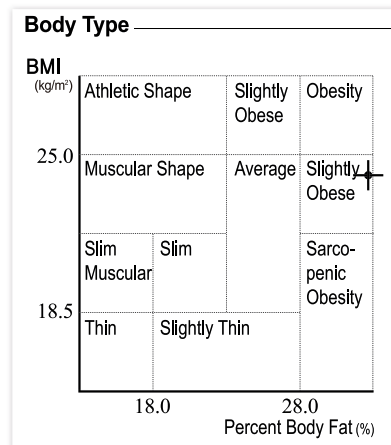
The segmental ECW shows the amount of extracellular water per segment. ECW accumulation can be a sign of edema or swelling. To determine if there is an excessive amount of extracellular water for the body, we recommend looking at the ECW Ratio.

**Segmental ECW Analysis**

Right Arm	1,00 L	( 0,58~0,86 )
Left Arm	0,91 L	( 0,58~0,86 )
Trunk	7,5 L	( 5,9~7,3 )
Right Leg	3,14 L	( 2,06~2,52 )
Left Leg	3,25 L	( 2,06~2,52 )

## BODY TYPE

The Body Type chart indicates one of the eleven body types corresponding to the BMI and percentage body fat of the person. This graph is only available on the InBody 370S result sheet.



## OBESITY EVALUATION

The Obesity Evaluation assesses the risk of obesity based on the BMI and percent body fat. The evaluation indicates whether these two parameters fall within normal limits or in the under or overrange.

**Obesity Evaluation**

BMI ☒ Normal ☐ Under ☐ Slightly Over ☐ Over

PBF ☐ Normal ☐ Slightly Over ☒ Over

## SEGMENTAL CIRCUMFERENCE

The segmental circumference provides an estimate of the outer circumference of different parts of the body based on body composition.

**Segmental Circumference**

Neck	15.2 cm
Chest	69.2 cm
Abdomen	80.5 cm
Hip	78.3 cm
Right Arm	25.6 cm
Left Arm	24.5 cm
Right Thigh	45.3 cm
Left Thigh	52.6 cm

## OBESITY DEGREE

The Obesity Degree shows the ratio between the current weight and the ideal weight for the person's height. It gives an insight into how much a person's weight differs from the ideal weight. When the degree indicates a value below 100%, the person's current weight is lower than the ideal weight. A degree of above 100% indicates that someone's current body weight is higher than the ideal weight. Note that this parameter does not consider the amount of muscle mass. People with a high weight due to a high amount of muscle mass will have a high percentage. Therefore this output needs the same precautions as for BMI.

Waist-Hip Ratio	1.00	(0.75 ~ 0.85)
Visceral Fat Level	14	( 1 ~ 9 )
Obesity Degree	112 %	( 90 ~ 110 )
Bone Mineral Content	2.15 kg	(2.05 ~ 2.51)
Body Cell Mass	22.8 kg	(22.0 ~ 23.2)



## ARM CIRCUMFERENCE

The Arm Circumference gives an estimate of the circumference of the left upper arm, at the level halfway between the shoulder and the elbow.

Bone Mineral Content	2.15 kg	(2.05 ~ 2.51)
Body Cell Mass	22.8 kg	(23.9 ~ 29.3)
Arm Circumference	29.6 cm	
Arm Muscle Circumference	25.0 cm	

## ARM MUSCLE CIRCUMFERENCE

Arm muscle circumference is an estimate of the circumference of the left upper arm muscle, at the level halfway between the shoulder and the elbow.

Body Cell Mass	22.8 kg	(23.9 ~ 29.3)
Arm Circumference	29.6 cm	
Arm Muscle Circumference	25.0 cm	

## RECOMMENDED CALORIC INTAKE

The Recommended Caloric Intake provides an estimate of the calories required based on an estimation of the physical activity. The measured fat mass, muscle mass and age are taken into account. When people have too much fat mass, the recommended calorie intake will be lowered, whereas for people who have a high amount of muscle mass the value will be increased.

Obesity Degree	114 % ( 90 ~ 110 )
SMI	5.8 kg/m <sup>2</sup>
Recommended calorie intake per day	1397 kcal
<b>Calorie Expenditure of Exercise</b>	

## CALORIE EXPENDITURE OF EXERCISE

The Calorie Expenditure of Exercise gives an estimate of the number of calories a person burns during 30 minutes of performing this activity. Here, body weight is taken into account in the estimation.

<b>Calorie Expenditure of Exercise</b>			
Golf	104	Gateball	112
Walking	118	Yoga	118
Badminton	134	Table Tennis	134
Tennis	177	Bicycling	177
Boxing	177	Racketball	177
Mountain Climbing	193	Jumping Rope	207
Aerobics	207	Jogging	207
Soccer	207	Swimming	207
Japanese Fencing	296	Racketball	296
Squash	296	Taekwondo	296
*Based on your current weight			
*Based on 30 minute duration			



## BLOOD PRESSURE

Blood pressure can be shown on the InBody result sheet if you have connected your BPBIO to your InBody. Blood pressure is the pressure in the blood vessels. This pressure is related to the blood pumped through the body by the heart to supply organs and muscles with sufficient oxygen. A blood pressure that gets or stays too high can damage the vessels and increases the risk of a heart attack or stroke. Blood pressure consists of the systolic pressure (upper number) and the diastolic pressure (lower number). A systolic pressure below 120 mmHg and a diastolic pressure below 80 mmHg reduce the risk of health problems related to high blood pressure.

**Systolic blood pressure (upper number):**

The pressure in the blood vessels when the heart contracts.

**Diastolic Blood Pressure (lower number):**

The pressure in the blood vessels when the heart relaxes.

**Heart rate:**

Number of heart beats per minute.



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