

Body Composition: The InBody Machine



Body composition is a measurement that is reflective of your health and exercise status.

Although the InBody machine body composition uses your weight and height it is significantly more accurate than just those two numerical values.

INSTRUCTIONS TO THE PATIENT BEFORE TAKING AN INBODY TEST

DON'T

- Don't exercise 6-12 hours before the test
- Don't eat for 3-4 hours before the test
- Avoid alcohol or caffeine for 24 hours
- Avoid using a hot shower or sauna immediately before the test
- Don't apply lotion to hands or feet

DO

- Hydrate well before test
- Stand upright for at least 5 minutes
- Empty your bladder before the test
- Remove socks, shoes, jackets, belts, and phones
- In cold weather, warm up for 20 minutes before testing

BODY COMPOSITION AS THE MOST IMPORTANT MEASURE OF HEALTH

	Values	Total Body Water	Lean Body Mass	Weight
Intracellular Water (lbs)	70.3	113.5	154.8	204.8
Extracellular Water (lbs)	43.2			
Dry Lean Mass (lbs)	41.2			
Body Fat Mass (lbs)	50.0			

Body composition measures how much of each of the following types of tissue or water a person has in their body:

- **Total Body Water**—our bodies are mostly water, and the amount of hydration can make a big difference in our weight. The InBody machine measures all the water that is contained inside your cells (Intracellular Water) and the water that is in your blood and lymph system plus swelling you might have in your subcutaneous tissues (Extracellular Water).
- **Total Body Water Ratio (ECW/TBW)** is calculated by dividing the water that is not in your cells, and divide it by all the water in your body. You are given a score that tells you if you are dehydrated (low ratio) or swollen (high ratio).
- **Dry Lean Mass**—includes the amount of muscle, bone, and everything in your body other than fat and water. In short it measures the tissues made of protein and minerals.
- **Low Result:** If you do not exercise, don't eat enough protein, if you have osteoporosis, or if your muscle mass is shrinking because of aging without T replacement.
- **High result:** This is a good sign of plenty of muscle, thick bones, and good protein nutrition. This increases quickly when older patients take T pellets.
- **Body Fat Mass:** is the total fat in your body, including fat in your cells, brain, subcutaneous fat, and abdominal fat mass. We want this number to be in the normal range for height and weight.

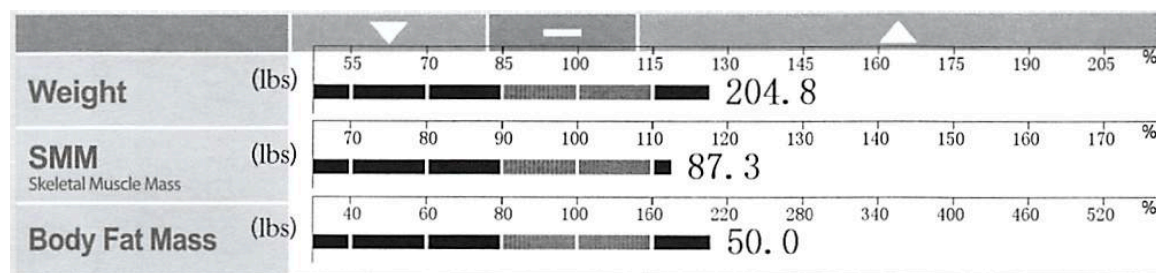
Some of us carry fat in our abdomen, others in our thighs or hips, even breast fat is part of Body Fat Mass. When I look at the changes in this number between visits, I can tell if your diet is good or if you are fudging about what you eat.

Body fat that does not decrease with T Pellet therapy indicates a high carb diet, inactivity, slow metabolism, or other hormone deficiencies. You can change the first two and I use medication to change the metabolism.

- **Weight** is just a measure of gravitational pull on your body. It indicates a gross number that includes all of the above parts of our body. Doctors use weight and height to calculate the BMI, because weight is easy and cheap to measure, not because it is the most accurate way of measuring if a person is “over-weight”. BMIs are of little use for determining if your lean body mass is healthy because if you have thick bones or a lot of muscle your number will be high for your height. If you are healthy with a lot of muscle the BMI will be artificially high and therefor misleading.

Weighing in at each doctor’s visit is the simplest way to find out if you are gaining fat, but is still a crude measure of health. At BioBalance® Health we do serial body composition measurements to find out exactly how your body is changing under the influence of testosterone pellets or our medical diet program. The InBody analysis is free at our office because we find it to be a valuable measurement to track our patient’s progress.

MUSCLE-FAT ANALYSIS



Compares an individual with healthy amounts of muscle and fat for your weight and height. It also tells the doctor where you store your fat, and if you need more T or more exercise.

- NL Skeletal muscle measures what you consider muscle—not your heart or smooth muscle in your intestines.
- The normal range is calculated against your weight and height. Being high is fine, but having a low number means:
 - Add more meat cheese and eggs, or amino acids to your life
 - Exercise with weights specifically the limbs or trunk that has a low amount of muscle mass

When we look at this graph we step back and look at the shape the three graphs make:



- **Type C** - Low muscle mass = Weak, old, or with low T.
- **Type I** - Average body type = normal weight, muscle mass, and fat.
- **Type D** - High muscle mass = Normal weight and strong.

OVERVIEW OF 8 BODY TYPES/ AND 8 TYPES OF TREATMENT:

1. **Type D - More muscle than fat:**

Keep up the good work. As you age there is a tendency to gain belly fat so follow your body composition and make changes in diet/exercise when necessary.

2. **Type C - More fat than muscle and high body weight:**

This type takes a lot of work! You must lose weight and fat, and preserve and build your muscle mass with high protein diet and resistance training (not just aerobic exercise).

- Cut out sugar, cabs, and alcohol. You need to get healthy!
- Get Testosterone Pellets

3. **Normal weight/Lots of muscle/very little body fat = Athletic Body Type I**

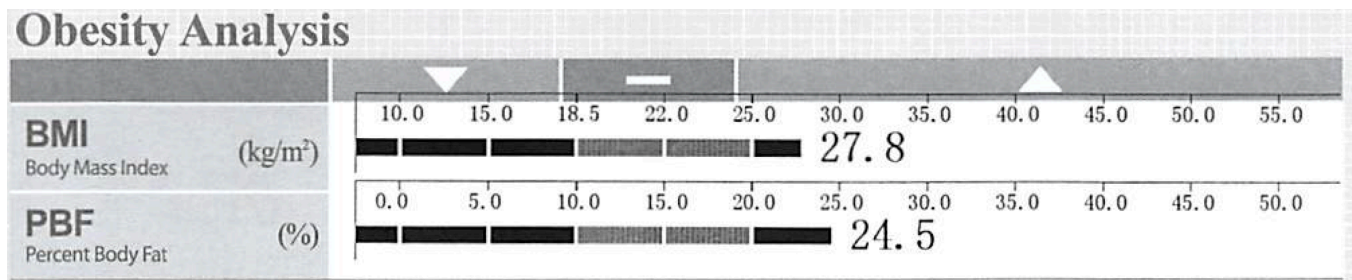
This is a healthy body type but make sure you don't lose too much fat. It is stored for times when we are sick.

4. **Normal weight and normal Body Fat/low muscle mass = Weak Type C**

You are the couch potato who looks thin and survives on chips and wine so get up, move, and work out! You got here by lack of exercise, a low protein diet, or an increased metabolism that eats up your muscle. Symptoms include swelling, poor muscle mass with hanging skin, trouble thinking, infections, and loss of energy.

5. **Very high fat and weight/normal muscle= Dangerous Obesity (Obese C Type)**
Hurry up and go on a strict diet with lots of aerobic exercise. You are at risk for a heart attack, heart failure, diabetes, high BP, breast and colon cancer, high BP and prostate cancer.
 6. **Above average weight/above average muscle/ low body fat: Athletic Body type**
Your weight might go up but it means you are making more muscle, not fat!
 7. **High everything: Chronic Obesity**
Do not take pride in the fact that you have a high level of muscle because that is just your body developing muscle to get you around, and support your high weight. You need to lose fat and weight, so cut back on carbs and calories.
 8. **Low everything—Weak and Health Complications**
Poor nutrition, lack of exercise, and starving. This is what I see with those people who are anorexic and don't move because they are so weak. BTW - these folks think they look good!
 9. **Type I Body with Normal Everything—Ideal body type**
Keep up the good work!
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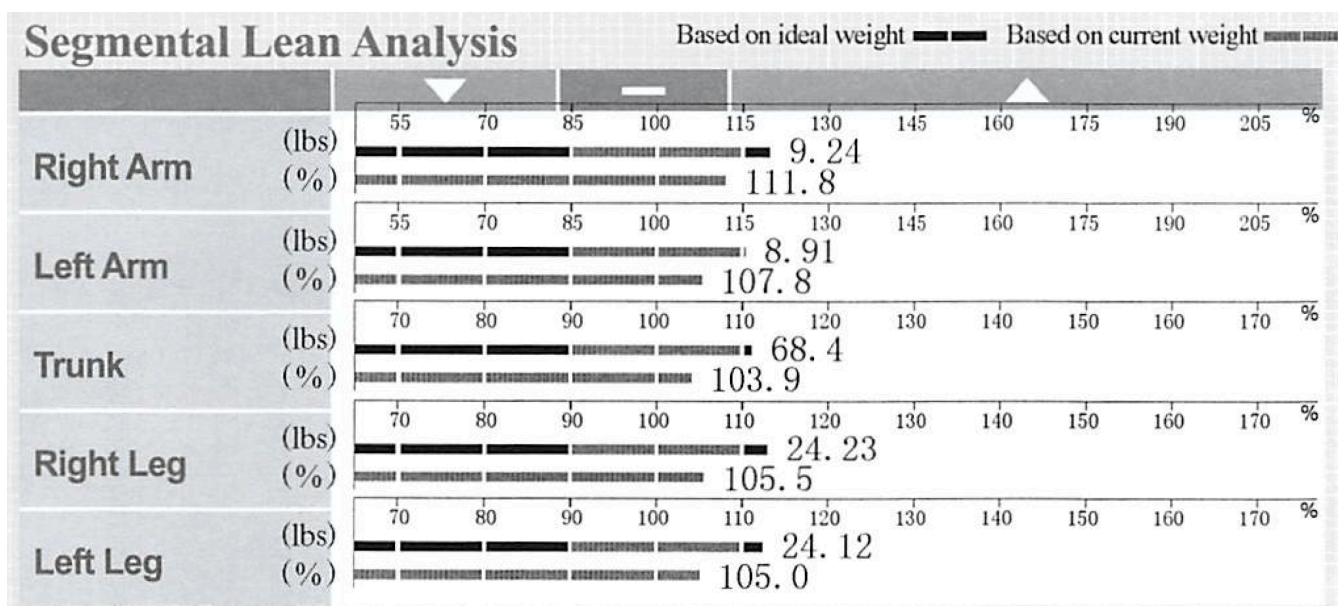
OBESITY ANALYSIS



This section of the test shows a comparison of BMI, discussed above, and Percent Body Type. Percent Body Fat is obtained by the InBody Machine and tells us the percentage of your weight in body fat. This tells a doctor more information about your health because it is a more accurate measurement than just weigh vs height which is the BMI.

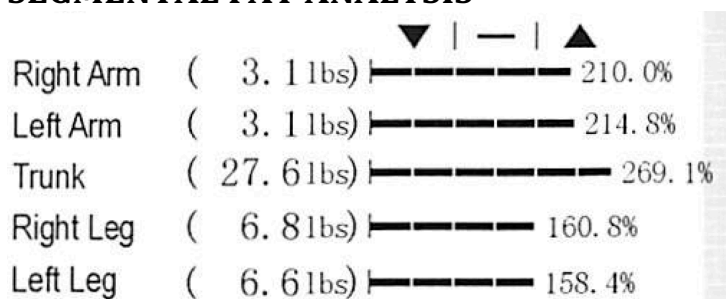
The normal for % body fat for men is less than 19%. The % body fat for women is less than 26%.

SEGMENTAL LEAN ANALYSIS



After measuring your lean body mass which is the total amount of muscle and bone that your body contains, we then measure the number of pounds of muscle that you have in each limb and your trunk. This is a great way to see how your exercise has worked and which areas you need to improve on. If you have a higher than average amount of muscle in your arms, that is ok. It is less healthy to have insufficient amount of muscle in any of your body areas because that is associated with aging without testosterone and it's also associated with poor health.

SEGMENTAL FAT ANALYSIS



The segmental fat analysis is similar to the Segmental Lean Analysis, except that it reveals the number of pounds of fat that you have in your limbs and torso. This can help assist your doctor in advising you to change your exercise program, or it may help you decide on esthetic fat removal, such as iLipo, or Liposuction.


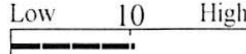
BASAL METABOLIC RATE (BMR)

Basal Metabolic Rate 
1885 kcal

The number of calories you burn a day determines whether you will gain or lose weight on the amount of food you eat. For example, if you have a basal metabolic rate of 1885 calories, that means if you lie in bed and sleep for 24 hours that is the number of calories you will consume doing nothing. If you exercise and burn another 1000 calories that day, and you eat 2,885 calories then you won't gain or lose any weight.

If you are aware of your BMR you can lose weight if you exercise more and burn more calories than your BMI + your food intake. Less food, more exercise cause you to lose fat!

VISCERAL FAT

Visceral Fat Level 
Level 10 

Belly Fat= Visceral Fat is the worst fat you can have for your health. We have found that the more belly fat a person has the higher is their risk for heart disease, stroke, diabetes, hypertension, and cancer. This fat is inside your abdominal wall and sits like a yellow apron in front of your intestines. The thicker it is, the more you look distended at the belt line. We measure this fat because of the danger it places you in. In this graph if you are at or below 10 you are safe, and if it is over 10 then you are in danger. This type of fat indicates that you need to increase your aerobic exercise, and decrease carbohydrates in your diet. Sometimes we prescribe Metformin to assist in the loss of this fat.

SUMMARY OF INBODY MACHINE DIAGNOSIS AND TREATMENT

Now you can review your results and your progress. Each time a patient steps on the machine and enters his or her code, that patient's progress is plotted on the graph at the bottom of the printout. This type of evaluation can be useful for weight-loss programs, determining whether a person needs testosterone replacement, and following a patient's progress with diet and exercise programs. We use it daily to plan Testosterone Pellet treatment, follow up progress after treatment, and to reassure patients that they are making progress.

Sample Results

InBody

[InBody570]

ID	Height	Age	Gender	Test Date / Time
3143486739	6ft. 00.0in	69	Male	05.01.2017 09:30

Body Composition Analysis

	Values	Total Body Water	Lean Body Mass	Weight
Intracellular Water (lbs)	70.3	113.5	154.8	204.8
Extracellular Water (lbs)	43.2			
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Muscle-Fat Analysis

Weight (lbs)	55 70 85 100 115 130 145 160 175 190 205 %	204.8
SMM (lbs)	70 80 90 100 110 120 130 140 150 160 170 %	87.3
Body Fat Mass (lbs)	40 60 80 100 120 140 160 180 200 220 240 260 280 300 320 340 360 380 400 420 440 460 480 500 %	50.0

Obesity Analysis

BMI (kg/m ²)	10.0 15.0 18.5 22.0 25.0 30.0 35.0 40.0 45.0 50.0 55.0	27.8
PBF (%)	0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0 40.0 45.0 50.0	24.5

Segmental Lean Analysis

Based on ideal weight — Based on current weight —

Right Arm (lbs)	55 70 85 100 115 130 145 160 175 190 205 %	9.24
Right Arm (%)		111.8
Left Arm (lbs)	55 70 85 100 115 130 145 160 175 190 205 %	8.91
Left Arm (%)		107.8
Trunk (lbs)	70 80 90 100 110 120 130 140 150 160 170 %	68.4
Trunk (%)		103.9
Right Leg (lbs)	70 80 90 100 110 120 130 140 150 160 170 %	24.23
Right Leg (%)		105.5
Left Leg (lbs)	70 80 90 100 110 120 130 140 150 160 170 %	24.12
Left Leg (%)		105.0

ECW/TBW Analysis

ECW/TBW	0.320 0.340 0.360 0.380 0.390 0.400 0.410 0.420 0.430 0.440 0.450	0.381
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Body Composition History

Weight (lbs)	204.8								
SMM (lbs)	87.3								
PBF (%)	24.5								
ECW/TBW	0.381								
Recent	05.01.17 09:30								
Total									

Body Fat - Lean Body Mass Control

Body Fat Mass -22.9 lbs

Lean Body Mass 0.0 lbs

(+) means to gain fat/lean (-) means to lose fat/lean

Segmental Fat Analysis

Right Arm (3.1 lbs)	210.0%
Left Arm (3.1 lbs)	214.8%
Trunk (27.6 lbs)	269.1%
Right Leg (6.8 lbs)	160.8%
Left Leg (6.6 lbs)	158.4%

Basal Metabolic Rate

1885 kcal

Visceral Fat Level

Level 10 Low 10 High

Results Interpretation

Body Composition Analysis

Body weight is the sum of Body Fat Mass and Lean Body Mass, which is composed of Dry Lean Mass and Total Body Water.

Obesity Analysis

BMI is an index used to determine obesity by using height and weight. PBF is the percentage of body fat compared to body weight.

Segmental Lean Analysis

Evaluates whether the muscles are adequately developed in the body.

The top bar shows the comparison of muscle mass to ideal weight while the bottom bar shows that to the current weight.

ECW/TBW Analysis

ECW/TBW, the ratio of Extracellular Water to Total Body Water, is an important indicator of body water balance.

Visceral Fat Level

Visceral Fat Level is an indicator based on the estimated amount of fat surrounding internal organs in the abdomen. Maintain a Visceral Fat Level under 10 to stay healthy.

Results Interpretation QR Code

Scan the QR Code to see results interpretation in more detail.



Impedance

	RA	LA	TR	RL	LL
Z(Ω) 5 kHz	282.5	295.9	24.0	239.9	238.1
50 kHz	249.4	262.7	20.5	212.9	212.7
500 kHz	215.0	224.8	16.3	183.8	185.0