

## Understand Your Body Composition

The scale only tells us our total body weight, not how much body fat we carry, which is what we are mostly interested in. There are several ways to determine our body composition.



## MAGNETIC RESONANCE IMAGING (MRI)

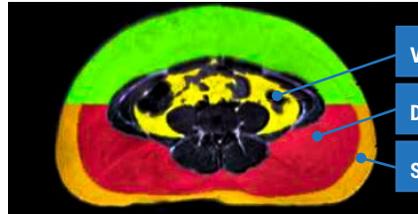
The MRI is the gold standard test for body composition, but it's expensive, hard to get, and almost never used simply to determine percent body fat.

### MALES



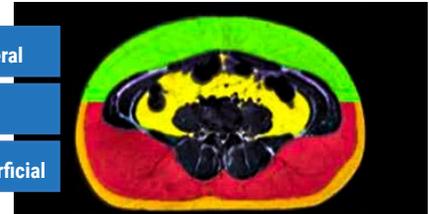
**TERTILE 1**  
**Age: 14**  
**BMI: 35.3**  
**Percent Fat: 41.7%**

Proportion of Visceral Fat: 0.08  
 Visceral Fat: 56 cm<sup>2</sup>  
 Subcutaneous Fat: 628 cm<sup>2</sup>  
 Deep-to-Superficial Ratio: 0.84  
 Matsuda Index: 2.60  
 Fasting Insulin: 23 µU/ml  
 2-hr Glucose: 80 mg/dl  
 TG: 100 mg/dl  
 HDL: 39 mg/dl



**TERTILE 2**  
**Age: 14**  
**BMI: 34.0**  
**Percent Fat: 39.3%**

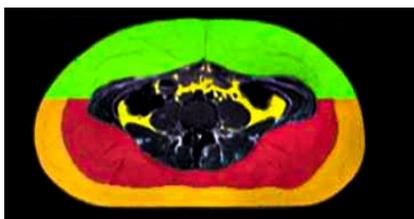
Proportion of Visceral Fat: 0.10  
 Visceral Fat: 68 cm<sup>2</sup>  
 Subcutaneous Fat: 616 cm<sup>2</sup>  
 Deep-to-Superficial Ratio: 2.08  
 Matsuda Index: 1.17  
 Fasting Insulin: 33 µU/ml  
 2-hr Glucose: 118 mg/dl  
 TG: 109 mg/dl  
 HDL: 34 mg/dl



**TERTILE 3**  
**Age: 14**  
**BMI: 33.1**  
**Percent Fat: 38.4%**

Proportion of Visceral Fat: 0.15  
 Visceral Fat: 89 cm<sup>2</sup>  
 Subcutaneous Fat: 519 cm<sup>2</sup>  
 Deep-to-Superficial Ratio: 2.84  
 Matsuda Index: 0.82  
 Fasting Insulin: 43 µU/ml  
 2-hr Glucose: 124 mg/dl  
 TG: 140 mg/dl  
 HDL: 40 mg/dl

### FEMALES



**TERTILE 1**  
**Age: 12**  
**BMI: 33.3**  
**Percent Fat: 40.4%**

Proportion of Visceral Fat: 0.05  
 Visceral Fat: 28 cm<sup>2</sup>  
 Subcutaneous Fat: 518 cm<sup>2</sup>  
 Deep-to-Superficial Ratio: 1.15  
 Matsuda Index: 1.90  
 Fasting Insulin: 33 µU/ml  
 2-hr Glucose: 95 mg/dl  
 TG: 15 mg/dl  
 HDL: 44 mg/dl



**TERTILE 2**  
**Age: 13**  
**BMI: 27.7**  
**Percent Fat: 38.2%**

Proportion of Visceral Fat: 0.11  
 Visceral Fat: 50 cm<sup>2</sup>  
 Subcutaneous Fat: 409 cm<sup>2</sup>  
 Deep-to-Superficial Ratio: 1.26  
 Matsuda Index: 1.15  
 Fasting Insulin: 32 µU/ml  
 2-hr Glucose: 165 mg/dl  
 TG: 82 mg/dl  
 HDL: 61 mg/dl



**TERTILE 3**  
**Age: 11**  
**BMI: 27.6**  
**Percent Fat: 37.7%**

Proportion of Visceral Fat: 0.15  
 Visceral Fat: 58 cm<sup>2</sup>  
 Subcutaneous Fat: 338 cm<sup>2</sup>  
 Deep-to-Superficial Ratio: 1.39  
 Matsuda Index: 0.27  
 Fasting Insulin: 77 µU/ml  
 2-hr Glucose: 185 mg/dl  
 TG: 143 mg/dl  
 HDL: 33 mg/dl

# The Fasting Method.

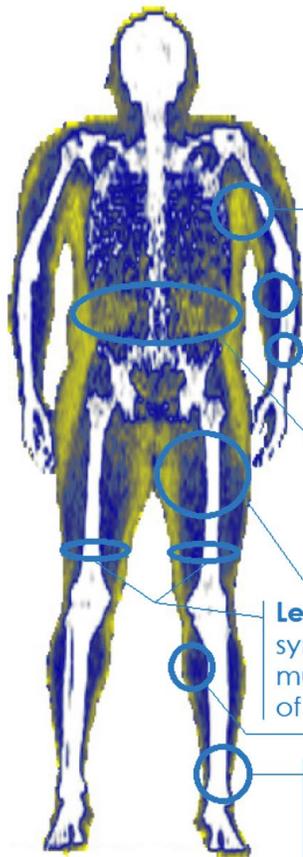
## DEXA BODY COMPOSITION SCAN

DEXA scans measure bone mass density when looking for osteoporosis, but it can also measure total body composition, include body fat percentage. It's a low radiation scan, so it's quite safe for women who aren't pregnant. Most DEXA scans cost around \$100, and would only need to be done at baseline and then every 6 months or so. They are great for motivation, to measure progress and for finding hidden visceral fat.

### What can you learn from a DEXA body composition scan?

1. Your total fat mass and where it is distributed within the body
2. The amount of lean mass you have and where it is located
3. The weight and general quality of your bone mass
4. Your resting metabolic rate (RMR)

Our DEXA scan generates an accurate full-body assessment with a 12-page report showing you exactly what you're made of so you can start to be better.



**Body Fat Percentage:** DEXA is the GOLD STANDARD in measuring Body Fat (BF) with amazing accuracy. Losing this fat is key to improving your fitness and avoiding health problems. Our measure is much more reliable than BMI or bio-impedance (BIA) methods.

**Lean Mass:** Your muscle mass and soft tissue component that you should be building more of for a more muscular and healthier body

**Visceral Adipose Tissue (VAT):** This is the "very bad" abdominal fat around your organs notorious for leading to diabetes, heart disease, high blood pressure, cholesterol, and other chronic health problems. Whatever you do, you need to work on reducing this fat for sure.

**Lean Mass Balance:** We show you just how symmetrical your body is so you can strengthen with muscle building on one side to match the other side of your body

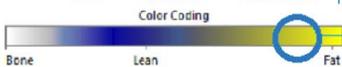
**Relative Skeletal Muscle Index (RSMI):** This is a useful measure of how healthy and strong your arms and legs are so that as you age you have better balance, function, and lower risk for falls

**Body Tissue Distribution:** Our DEXA report shows you clearly where your fat and muscle is distributed in image form unlike any other test so you can work towards a leaner and healthier body

**Bone Density:** Shows you just how strong your bones are

**Android/Gynoid Fat:** This is a ratio of fat around your waist and hips area. More fat around your waist is worse for your fitness

**Resting Metabolic Rate (RMR):** An accurate estimation of how many calories you burn at rest so you can better assess your caloric requirements



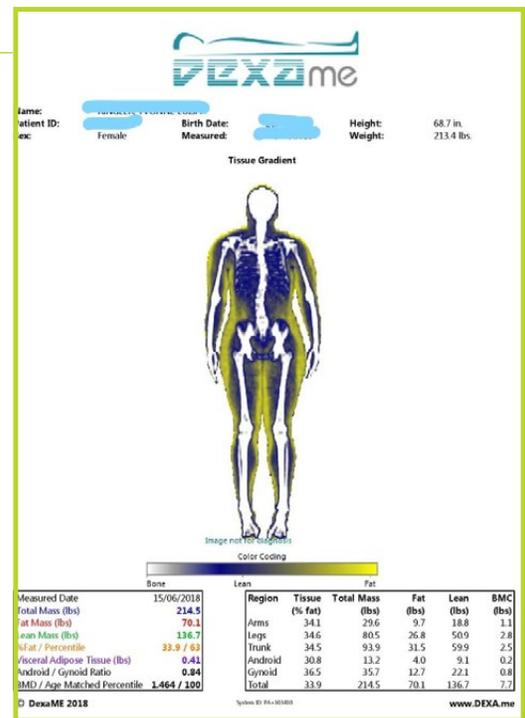
There are two major considerations when interpreting your results during fasting:

## 1. They report a reduction in organ fat as muscle (lean) mass loss

DEXA scans can interpret the fat inside organs, such as a fatty liver as lean or muscle mass. Losing that organ fat is a great thing, but the DEXA scan results will seem like you've lost lean or muscle mass. This is something to be cautious of. Checking a baseline abdominal ultrasound for fatty liver, pancreas or spleen can help interpret the follow-up DEXA scan results more accurately.

## 2. They report a reduction in glycogen stores as muscle (lean) mass loss

If you have a wild, carb-filled weekend, your body stores that glucose as glycogen in your liver and in your muscles. During fasting, glycogen stores are used first, making it appear as though you've lost lean or muscle mass. When doing a DEXA scan, try to eat as close to your usual diet as possible for several weeks to get the most accurate reading possible.



Watch this video to learn more about DEXA body composition analysis.



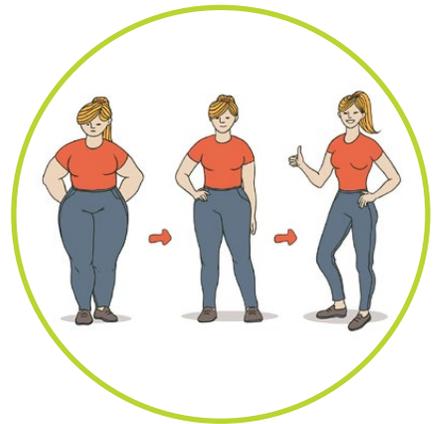
### BODY COMPOSITION SCALES

Body composition scales look like regular bathroom scales, but measure body fat percentage instead. They are relatively affordable at about \$50. They have the same limitations as DEXA, and are not usually calibrated regularly, so can sometimes show inaccurate results. Check at the same time of day, preferably first thing in the morning after you've fasted and have gone to the bathroom for best comparisons.



### WAIST CIRCUMFERENCE

Measuring changes to your waist circumference is the simplest way to gauge your metabolic health. This reflects the amount of dangerous visceral fat we carry and is correlated to risk of heart disease. You can also measure the size of your stomach, hips, thighs, arms, etc., to track your progress.



### PROGRESS PHOTOS

The cheapest and easiest way to note changes is to take progress pictures monthly. It's hard to tell how much your body is changing if you are looking at yourself every day, but you'll be surprised how much you've actually changed if you can go back and look at photos of yourself from few months ago.