



## **Know Your Numbers**

By the time you complete The 30-Day Vegan Challenge®, you will no doubt experience changes that are impossible to measure – changes in your outlook, energy level, perspective, and overall wellbeing – but you will also most likely experience physiological and biochemical changes that you can track and measure.

You may be surprised to learn that measureable differences can be seen by eliminating meat, dairy, and eggs for just 30 days, but the closer you follow my guidelines for eating a healthful, whole foods, plant-based diet, the greater the likelihood of noticeable improvements in your numbers.

Although this is by no means mandatory for participating in The 30-Day Vegan Challenge®, some people appreciate seeing the tangible differences themselves, so I recommend they visit their health professional before they start so they can get a complete health check as well as a full blood and urine panel.

Common laboratory tests span a wide spectrum, so I'm including only a few. Your health professional can help you interpret others not listed here.

### **BODY WEIGHT**

When it comes to evaluating weight and its impact on your health, it's not just a matter of what the scale says. Rather, your percentage of body fat, waist circumference, and body mass index (BMI) should all be considered.

In the last several decades, a number of different tables have been devised to help people determine their "ideal weight." The ones that were most widely used for decades were [those created by Metropolitan Life Insurance Company](#) in 1942 and subsequently updated over the years.

Although on an individual basis, these height/weight tables provide very little information about an individual's health risk, they may be helpful when used in conjunction with other measurements to indicate whether or not you are within a healthy weight range.

### **BMI (BODY MASS INDEX)**

One of the most accurate ways of assessing whether or not you are overweight or obese is to determine what percentage of your body weight is fat. However, getting accurate body fat measurements can be expensive and difficult, so the Body Mass

Index (BMI) was created in 1998 by the National Institutes of Health (NIH). This guide has essentially replaced the old life insurance tables as a method to gauge healthy weight and helps doctors, researchers, dietitians, and government agencies get on the same page regarding weight recommendations. The same scale is used for men and women.

Body mass index (BMI) is a measure of body weight relative to height. Using the table [here](#), find your height in the left-hand column, and move across the same row to the number closest to your weight. The number at the top of that column is your BMI.

BMI is a measure of body weight relative to height. According to NIH standards, you are overweight if you have a BMI between 25 to 29.9, and obese if you have a BMI of 30 or higher. A healthy weight provides a BMI of 18.5-24.9.

One of the main problems with using the Body Mass Index *alone* is that it doesn't factor in muscle mass, so people like body builders will have a high BMI but actually low body fat. Thus, it's useful to factor in waist circumference.

### **WAIST CIRCUMFERENCE**

Waist circumference is a helpful measurement because your health is affected not only by excess body fat, but also by *where the fat is located*. Some people gain weight in the abdominal area (the so-called "apple shape"); others around their hips and buttocks ("pear-shaped" bodies). People with the former are at higher risk for heart disease and Type-2 diabetes.

According to the National Institutes of Health, a waist circumference greater than 40 inches for men and 35 inches for women is linked to a higher risk of Type-2 diabetes, high blood pressure, high cholesterol levels, and heart disease.

To properly measure your waist, place a tape measure around your middle, just above your hipbones but below your rib cage. Breathe out, and measure.

### **PERCENTAGE OF BODY FAT**

You can determine your body fat by using one of those little devices called calipers, often available at your local gym or doctor's office. This is a skinfold test to determine the thickness of the subcutaneous fat layer at three or seven sites on the body, which is then converted to estimate fat percentage. According to the American Council on Exercise, a body fat level greater than 25% in men and 32% in women indicates one is obese.

### **BLOOD PRESSURE**

Blood pressure is a measure of how hard blood is pressing against artery walls, like water running through a hose. Ideally, you want the systolic (top number) to be under 120 and the diastolic (bottom number) under 80. The risk for strokes and

heart attacks starts progressively climbing above 115/75 mmHg. You can measure your blood pressure using machines available in many pharmacies and doctor's offices, or buy a device to check at home.

## **BLOOD GLUCOSE**

According to the Centers for Disease Control and Prevention, as of 2012, an estimated 21 million people (children and adults) in the United States have been diagnosed with diabetes, another 8.1 million are undiagnosed, and 86 million are pre-diabetic.

One to three different glucose tests are given by doctors to make a diagnosis.

- The first test checks the amount of glucose in your blood at any given time during the day, regardless of the last meal eaten. A glucose value of 200 mg/dl (plus diabetes symptoms) is a good indicator of diabetes.
- The second test is a fasting blood glucose, which is done after you have fasted for at minimum eight hours. Fasting glucose should be in the range of 70 to 110 mg/dl; a fasting glucose level of 126 mg/dl or more indicates diabetes.
- The third test is an oral glucose tolerance test to see how well your body deals with sugar. Normally, blood sugar rises after you eat and then returns to normal levels (70 to 110 mg/dl) within an hour or two. Higher values means your body has trouble moving glucose out of the blood and into the cells.

The 57 million people with "pre-diabetes" means their fasting blood glucose level is 110 to 125 and postmeal level is 140 to 200 mg/dl – not high enough to be considered diabetes but higher than what is considered normal.

## **CHOLESTEROL**

We all throw around words such as "cholesterol" and "good and bad cholesterol," though many of us don't even know what this stuff is or what it does. Made in the liver of animals, cholesterol is a fat-like substance we consume in our diets via meat, dairy, and eggs (there is no dietary cholesterol in plant foods). Though our bodies also produce cholesterol (we are, after all, animals), we have no requirement to *consume* dietary cholesterol. The cholesterol made by our bodies travels through the bloodstream in little packages called *lipoproteins*:

- Low-density lipoproteins (LDL or "bad" cholesterol) deliver cholesterol TO the body.

- High-density lipoproteins (HDL or "good" cholesterol) take cholesterol OUT of the bloodstream.

When there is too much cholesterol in the bloodstream, it's a major risk factor for heart and blood vessel disease. To determine cardiovascular disease risk, doctors look at *total cholesterol*, *LDL*, *HDL*, and the ratio of the latter two.

**Total Cholesterol:** Because the average cholesterol level in the United States is so high (around 200), recommendations indicate that levels must be reduced to "below 200." Although it's true that people with a level of 200 are at lower risk than those at 235, they are still at significantly high risk. In fact, about 35% of those who have heart attacks have cholesterol levels between 160 and 200.

After decades of research, including longtime landmark studies such as the Framingham Heart Study and the China Diet Study, it is evident that the optimal level for total cholesterol is below 150. What's more is with a cholesterol level under 150, you don't really have to concern yourself with the further breakdown of 'good' and 'bad' cholesterol analysis, outlined below.

LDL ("Bad") Cholesterol: Less than 100 is the optimal number.

HDL ("Good") Cholesterol: Between 40 and 60 is optimal.

**IMPORTANT NOTE:** A nutrient-dense plant-based diet makes the HDL portion of cholesterol *lower* because *all* portions of the *total cholesterol* are reduced. In other words, don't be misguided into thinking something is wrong when your HDL level falls. On the other hand, a very high HDL level (60 or above) is not always a good sign either. It means the HDL is working harder to get cholesterol out of the bloodstream. The more cholesterol, the more work it has to do.

## **TRIGLYCERIDES**

Tryglycerides are fatty substances that – like cholesterol – are made in the liver and circulate in the bloodstream. High levels indicate a risk of cardiovascular disease and are associated with pancreatitis.

Although medical establishments consider triglyceride levels of 100 to 150 mg/dL "normal" or "good," many experts feel that optimal fasting blood triglyceride levels should be 50 to 150 milligrams mg/dL). Levels of 200 to 500 mg/dL are considered high.

## **HOMOCYSTEINE**

Homocysteine is an amino acid that is normally found in small amounts in the blood. Higher levels are associated with increased risk of cardiovascular disease, venous thrombosis, dementia, and Alzheimer's disease.

The optimal range is between 6 and 8  $\mu\text{mol/L}$ .

**NOTE:** Keeping homocysteine at levels associated with lower rates of disease requires both adequate intake of vitamin B12 (through supplements or fortified foods) and folate (through green leafy vegetables) or folic acid (through multivitamins).

## **VITAMINS**

Because there are some vitamin deficiencies in the typical American diet, it is also worth looking at the following prior to and after the 30-Day Vegan Challenge.

- **Vitamin D** – Americans are deficient in vitamin D more any other vitamin. Experts' opinions vary between shooting for 40 to 60 ng/mL and 50 to 70 ng/mL as the optimal range.
- **B12:** >400 pg/mL is optimal. (In the case of getting an accurate B12 level checked, it's recommended that you request a urine MMA test or get it online.

If you decide to get your blood work done before you begin, don't forget to return to your health professional to get another blood/urine panel taken at the end of the 30 days in order to note improvements.

Either way, I think this will be a helpful guide to empower you to understand what those numbers mean whenever you do get your blood work done.