

How to Reverse Insulin Resistance: The Secret is Sensitive Cells

The relationship between your cells and your hormones determines, to a large extent, how healthy you are.

For example, when our cells are resistant to the effects of insulin (one of the main anabolic and energy-storage hormones in the body), we have a higher chance of developing metabolic diseases such as type 2 [diabetes](#), obesity, and heart disease.

In contrast, insulin sensitive cells are able to efficiently and effectively respond to insulin in a way that allows us to carry out many of the vital mechanisms needed to maintain health and prevent disease.

Altogether, this biological phenomenon is known as insulin sensitivity, and it plays a significant role in fat loss, hormone balance, metabolic function, and disease prevention. When the majority of our cells aren't insulin sensitive, this can lead to a condition called insulin resistance, which significantly increases the risk of heart disease and type 2 diabetes.

Fortunately, you won't be stuck at a specific level of insulin resistance for the rest of your life. In fact, there are several strategies you can use to increase your receptivity to insulin and reverse insulin resistance – but before we implement them, let's take a closer look at insulin and insulin resistance.

Related: [*Holistic Guide to Healing the Endocrine System and Balancing Our Hormones*](#)

What is Insulin? The Lifesaving Effects of a Highly Misunderstood Hormone

Insulin is a protein-based hormone secreted by the [pancreas](#) in response to increases in [blood sugar](#) and certain amino acids. Insulin's primary role is to regulate the nutrients you absorb from food, primarily carbohydrates.

When you eat and digest carbs, it increases how much sugar is in your bloodstream. This is detected by the cells in your pancreas which will then secrete insulin into the blood. Once the insulin is traveling in your bloodstream, it will start binding to your cells and stimulate them to take in and utilize the sugar.

The purpose of this action is to reduce the amount of sugar in your blood and trigger the cells to use it and/or store it. This is essential for our health because abnormally high amounts of sugar in the blood can cause harm throughout the body. In some cases, having high blood sugar levels can even cause major health issues and become fatal if not managed properly.

With that being said, everything about insulin isn't "good." In fact, this (not so) superhero hormone hinders the one key metabolic process that allows us to lose fat: Fat burning.

Insulin, Carbs, Weight Gain, and Fat Loss: What is the Real Cause of the Obesity Epidemic?

With the increasing popularity of low-carb diets and the belief that carbs make you fat, insulin and carbs have been demonized as the reason why we gain fat. Although there is

some truth to this (because insulin tends to stimulate sugar use and shut down fat burning), the hypotheses that arose from this understanding are not supported by the evidence.

For example, one of the most popular explanations for the growing obesity epidemic in westernized countries is that our carb-heavy diets keep our insulin levels so high that it prevents us from burning stored fat. This is known as the “Carbohydrate-Insulin Hypothesis,” and it’s touted as the main reason for why low carb diets, like the ketogenic diet or the Atkin’s diet, are so effective at boosting fat loss.

Makes sense, right? Just cut the carbs to decrease insulin levels, and you will trigger fat burning and lose fat. This hypothesis is accurate in some aspects, but it neglects the bigger picture.

Related: [How To Heal Your Gut](#)

If we consider the totality of the biochemistry and physiology of digestion and energy metabolism – without exaggerating insulin’s effects on fat cells – insulin is simply one piece of information that feeds into what the body decides to do.

Put in another way: insulin provides our cells with info regarding glucose availability and energy status, and our cells will integrate that information with all the other information they have about their own energy status, needs, and abilities to come up with the appropriate actions.

The ultimate result is that cells burn energy when they need fuel and stop burning energy when they don’t – insulin is just one of the hormones involved in the decision-making process of the cells. This means that your energy intake (i.e., calorie consumption) is the ultimate determining factor of whether you gain or lose weight. Insulin is but one of the multitude of factors that determines what you do with the calories you consume.

The Relationship between Insulin, Insulin Resistance, and Insulin Sensitivity

With this deeper understanding of the relationship between insulin and our cells, a much more accurate model of insulin resistance arises as well. Although carbs are the main reason why insulin is released, what is going in the cell is the ultimate determinant of how it will respond to that insulin.

Thus, the key to reversing insulin resistance as a whole is increasing the insulin sensitivity of each individual cell. Sounds simple enough, but how can accomplish such a solely cellular feat? To answer this question, we must develop a better sense of insulin sensitivity.

What is Insulin Sensitivity Exactly?

Insulin sensitivity is the term that we use to describe how the cells in our body respond to insulin. The more insulin sensitive your cells are, the more responsive they will be to insulin, and vice versa.

To measure this phenomenon objectively, we need to figure out how much insulin your body needs to produce to deposit a certain amount of glucose (sugar). You are considered insulin sensitive if your body only needs to secrete a small amount of insulin to deposit glucose into the cells, and you are considered insulin resistant when you need a higher than normal dose of insulin for the cells to respond.

Insulin sensitivity has turned into a widespread phenomenon in the weight loss industry because of the strong correlation between insulin sensitivity and body fat percentage. The research literature suggests that increasing your insulin

sensitivity (which also means decreasing your insulin resistance) will reduce your risk of heart disease, type 2 diabetes, obesity, and Alzheimer's disease. In other words, if you want to lose fat and improve your overall health, it is probably best to optimize your insulin sensitivity.

Related: [*Sugar Leads to Depression – World's First Trial Proves Gut and Brain are Linked \(Protocol Included\)*](#)

What Determines How Insulin Resistant You Are?

Both modifiable and non-modifiable factors determine the degree to which you are insulin sensitive or insulin resistant.

Non-modifiable factors are factors that cannot be changed. Some examples of **non-modifiable factors** that decrease insulin sensitivity are:

- **Increasing age.** Research has found increasing age to be associated with increased insulin resistance. However, it is possible to prevent this decline in insulin sensitivity with the lifestyle changes we will talk about later.
- **Genetics.** Your genes can determine how sensitive certain cells are to insulin. For one example of what I mean by this, check out our article on [*polycystic ovary syndrome*](#) – a condition that is intimately linked with cells that were left vulnerable to insulin resistance by specific genes.
- **A family history of type 2 diabetes.** The combination of genetic and environmental factors that come with your family history can leave you with a higher risk of developing insulin resistance.
- **Ethnic background.** If you are of African-American, Asian-American, Latino/Hispanic-American, Native

American, or Pacific Islander descent, you have a greater likelihood of developing insulin resistance.

In contrast, **the modifiable factors** (i.e., what you can actually do to increase your insulin sensitivity) are

- losing weight
- reducing stress levels
- maintaining a calorie deficit
- decreasing caffeine consumption
- eating less processed foods and sugar
- exercising
- getting adequate sleep
- taking specific supplements and/or drugs that decrease insulin resistance
- fasting/intermittent fasting
- and many more that we will take a closer look at later in this article

By neglecting to use these modifiable risk factors to your advantage, you will steadily reduce your insulin sensitivity and set the stage for insulin resistance and the conditions that come with it.

The Big Picture – Insulin Sensitivity and Insulin Resistance

The physiology of insulin resistance is so complex that we aren't even close to explaining it all. However, it is possible to distill our learnings into one simple concept that will help you understand what causes insulin resistance and increases insulin sensitivity for most people:

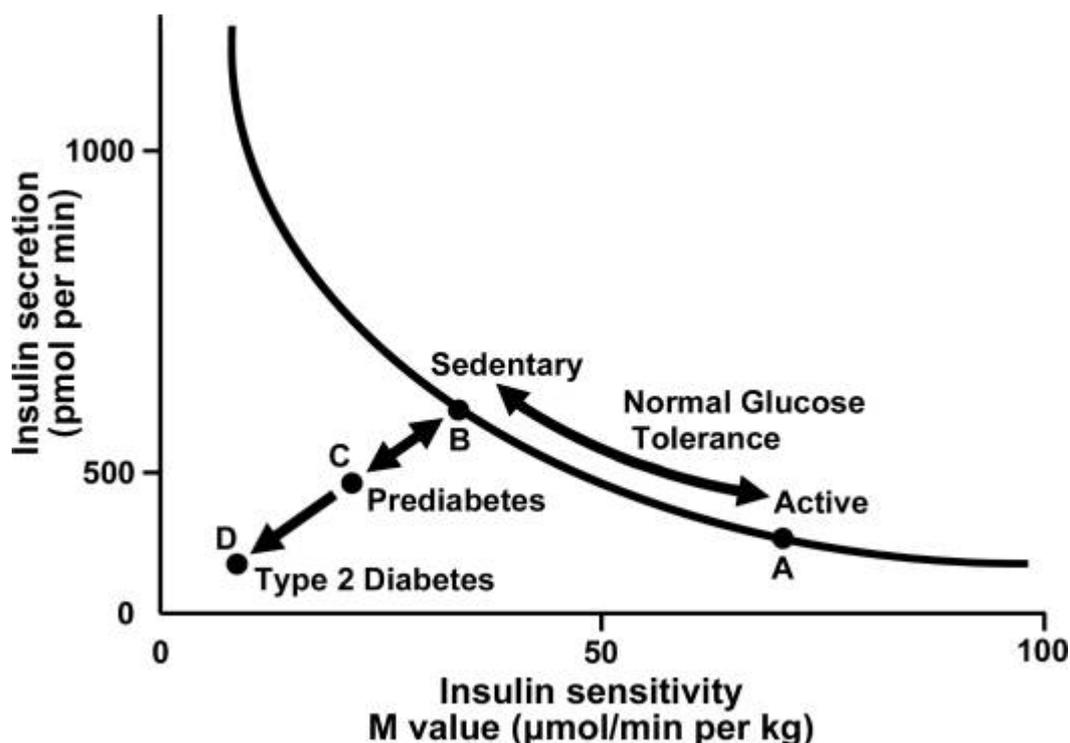
- Increased energy status will cause your cells to become more insulin resistant and less insulin sensitive over time.
- Decreased energy status will cause your cells to become less insulin resistant and more insulin sensitive over

time.

By energy status, I mean the current state of your cells. Are they being bathed in energy molecules without any demand to use it up? This is “high energy status”, and it occurs when we are inactive and overeat.

In contrast, if your cells are in need of more energy to keep up with your body’s demands, then this indicates that you are in “low energy status.” As a result, your cells will increase their sensitivity to insulin so that they don’t miss out on the opportunity to get more fuel.

To further illustrate the big picture of insulin resistance, here is a graph from an article published in [Comprehensive Physiology](#):



This graph depicts the relationships between insulin secretion and insulin sensitivity. Insulin secretion rises as insulin sensitivity falls when an individual goes from a state of exercise training/being physically active (point A) to inactivity/sedentary (point B).

Conversely, insulin secretion decreases as insulin sensitivity

increases when a person goes from inactivity/sedentary (point B) to physically active (point A). This is what commonly occurs in healthy individuals.

However, when insulin secretion fails to compensate for a fall in insulin sensitivity, the person will progress to prediabetes (Point C). If no changes are made at this point, the disease will progress from point C to Point D (type 2 diabetes). The only way to prevent this from happening is by improving your insulin sensitivity.

Ten Ways to Reduce Insulin Resistance and Increase Insulin Sensitivity

Luckily, insulin resistance isn't a fixed mechanism in the body (even if you have all of the non-modifiable factors). It can be drastically improved (and potentially reversed) with simple lifestyle modifications.

Here are ten proven strategies you can use to help you optimize your insulin sensitivity:

1. Follow a Whole Food, Plant-Based Diet.

Simple sugar stimulates the most insulin release of all the macronutrients so, theoretically, removing carb-rich processed foods from your diet should decrease insulin levels and improve insulin sensitivity to some degree. This speculation is backed up by the research on how low carb diets affect patients with type 2 diabetes.

Also worth noting is the fact that whole foods are much more satiating and contain more fiber than processed foods. By increasing the satiety of our diet, we tend to eat fewer calories (decreasing the energy status of our cells), and the extra fiber helps slow carbohydrate and protein absorption,

decreasing our insulin requirements and reducing insulin resistance.

2. Lose Fat.

Studies have shown that having high amounts of fat, especially around your midsection, can produce harmful chemicals and hormones responsible for increasing insulin resistance and inflammation.

Simply by losing excess fat, insulin sensitivity and metabolic function will improve significantly. More specifically, one study found that a weight loss of 5 percent is all obese patients need to experience some of the positive effects of fat loss on insulin sensitivity.

One of the most effective ways to lose fat is by replacing all the processed foods with high-quality whole foods.

3. Add Fasting and/or Intermittent Fasting to Your Lifestyle.

We learned earlier that low energy status increases insulin sensitivity. Although following a healthy diet is one of the best ways to achieve a lower energy status, sprinkling in some fasting and/or intermittent fasting throughout your diet plan can help as well.

A pilot study found that intermittent fasting for 2 weeks (with a 18-20 hour fasting window) helped to improve blood sugar levels with a trend toward improved insulin sensitivity in type 2 diabetics.

The research on dietary interventions for type 2 diabetes also suggests that calorie restriction is one of the major factors that can help manage and potentially reverse the disease. One way to achieve this, which was confirmed by the pilot study on intermittent fasting, is by restricting your feeding window,

so you eat fewer calories throughout the day.

By eating fewer calories, you decrease your energy status, which improves overall insulin sensitivity.

However, there is one caveat to fasting and intermittent fasting for people who have diabetes. Since both forms of fasting can cause significant changes in blood sugar levels, it is best to consult your doctor before adding them to your treatment plan.

4. Add Aerobic and Anaerobic Exercise to Your Weekly Schedule.

Want to improve your insulin sensitivity as rapidly as possible? Start working out, right now.

Exercise draws upon our energy stores so much that many of the cells throughout our body have to make themselves sensitive to insulin to ensure that they will get the energy they need.

Fortunately, both aerobic and anaerobic exercise will reduce your insulin resistance in a variety of ways, so the type of exercise you do is entirely up to you.

Aerobic exercise involves any form of physical activity that requires you to exercise for a prolonged period of time without rest breaks. This includes jogging, swimming, or anything where you're moving your body at a steady state for 30 minutes or longer.

Anaerobic exercise, such as lifting weights, sprinting, and intense rowing/cycling, can also drastically improve your insulin sensitivity.

In general, it is best to aim for five hours of exercise per week. Research suggests that this is the sweet spot for significantly improving your insulin sensitivity.

To get the best results, I recommend doing a combination of

aerobic and anaerobic exercise throughout the week. Anaerobic exercise will help you build more muscle and burn through glycogen stores, which keeps your insulin sensitivity high, while aerobic exercise will ensure that your cells never have a chance to increase their insulin resistance to unhealthy levels.

5. Reduce Your Stress Levels.

Stress, physical or emotional, causes us to secrete cortisol.

When cortisol is circulating through the blood, it stimulates various mechanisms in your body that increase your blood sugar levels, providing you with the energy you need to handle the stressful situation. One way that cortisol does this is by increasing insulin resistance.

Once the body has taken care of the stress-inducing situation, cortisol will be broken down as insulin sensitivity is restored. This response to stress is healthy and normal – in the short term.

However, most people in modern society are typically stressed for the majority of the day. With every stressor comes more cortisol, decreased insulin sensitivity, and more stress. The only way to stop this cycle is by giving your body a chance to relax and recover from your daily stressors.

Here are some helpful strategies you can use reduce your stress levels and decrease insulin resistance:

- Meditate
- Take a short nap
- Do yoga, tai chi, and/or qi gong
- Quit smoking
- Exercise regularly
- Maintain a good sleep schedule
- Use adaptogenic herbs like Rhodiola and Ashwagandha
- Supplement with vitamins and minerals that you may be

deficient in (magnesium and vitamins C, E, B, and D, in particular, can help with stress)

6. Get Adequate Sleep Every Night.

When you don't get enough sleep, your body's hunger hormone, ghrelin, begins to fluctuate, and your cortisol levels elevate. Simply put, losing sleep will cause you to feel hungrier than usual while simultaneously increasing your stress levels and insulin resistance (thanks to cortisol).

Altogether, these hormonal changes will typically cause you to eat more and struggle to regulate glucose effectively when you do have those extra calories. The best way to counteract this is by going to sleep at the same time every night and waking up at around the same time every day after getting at least 7 hours of sleep.

7. Consume More Soluble Fiber.

Of the two types of fiber, insoluble and soluble, soluble fiber is most notable when it comes to reducing insulin resistance. This is because soluble fibers slow down the movement of food through the small intestines, which helps reduce the amount of sugar that enters your blood, decrease appetite, and lower cholesterol levels.

Not sure how to get more soluble fiber? Here are some of the healthiest sources (as long as your digestive system can tolerate them):

- Cruciferous vegetables
- Leafy greens
- Pumpkin seeds
- Sunflower seeds
- Legumes
- Oats

8. Add More Fruits, Vegetables, Herbs, and Spices to Your Diet.

Many studies have found that a diet rich in plant compounds from fruits and vegetables is linked to reduced insulin resistance. The healthiest plants tend to be low-carb fruits and vegetables like wild berries, leafy greens, and cruciferous vegetables.

Herbs and spices have also shown promising results for boosting insulin sensitivity. Some of the most effective are:

- **[Turmeric](#)**: This powerful herb contains a compound called curcumin, which has potent antioxidant and anti-inflammatory properties. It can indirectly increase insulin sensitivity by reducing free fatty acids and sugar in the blood.
- **[Ginger](#)**: This popular spice is linked to increased insulin sensitivity as well. Studies have found that its active component, gingerol, makes muscle cells more receptive to sugar.
- **[Garlic](#)**: Garlic has antioxidant properties that may directly increase insulin sensitivity, according to animal studies.
- **[Cinnamon](#)**: This popular spice is well-known for its ability to reduce blood sugar and increase insulin sensitivity. One meta-analysis found that consuming 1/2–3 teaspoons (1–6 grams) of cinnamon daily can significantly reduce short- and long-term blood sugar levels.

9. Drink Green Tea

Green tea an excellent choice for people who are struggling to manage their blood sugar levels. Several studies have found that drinking green tea can increase insulin sensitivity and reduce blood sugar levels.

The beneficial effects of green tea could be due to its powerful antioxidant epigallocatechin gallate (EGCG), which many studies have found to increase insulin sensitivity on its own.

Supplementing with decaffeinated green tea extract may be the best option since caffeine has been found to increase insulin resistance.

10. Experiment with Supplements that Help Reduce Insulin Resistance.

There are many supplements that can help with insulin resistance, but let's stick with the ones that are backed by research:

- **[Resveratrol](#)**: This is a polyphenolic compound that can be found in red wine and is known for its antioxidant benefits. High-quality evidence indicates that resveratrol can boost glucose uptake significantly without increasing insulin needs.
- **[Alpha Lipoic Acid](#)**: Alpha Lipoic Acid (ALA) is an organosulfur compound that is essential for aerobic energy metabolism. Many studies have reported that supplementation with this compound can help reduce insulin resistance in subjects with type 2 diabetes.
- **[Berberine](#)**. This is a plant alkaloid that has been shown to lower blood glucose in many cases. Some researchers have even found berberine to be as effective as the popular diabetes drug, metformin.
- **[Chromium](#)**: Some evidence indicates that this essential trace element has the ability to indirectly increase insulin sensitivity.
- **[Magnesium](#)**: This essential mineral is so crucial for proper insulin signaling that magnesium deficiency can worsen insulin sensitivity.
- **[Gymnema Sylvestre](#)**: It lowers blood sugar and is also

called gurmar, which means “destroyer of sugar” in Hindi.

How to Know If These Changes are Reversing Your Insulin Resistance

The quickest and safest way to find out if you are insulin resistant is to get a test done by your doctor. The most reliable test is called HOMA-IR, which makes an accurate guess regarding your body’s insulin resistance by tracking your blood sugar and insulin levels over time.

You can also measure your blood sugar fluctuations directly with an oral glucose tolerance test. This test consists of multiple blood tests and the ingestion of a glucose solution as a way to see how your body handles an increase in blood sugar levels.

Despite how helpful both of these tests are, they are inconvenient and unnecessary for most people. A more accessible way to track your level of insulin resistance is by seeing how your blood work and other key health indicators change as you make the appropriate dietary and lifestyle adjustments.

For example, if your blood sugar levels, blood lipids, and blood pressure reach healthier levels, then you are most likely improving your insulin sensitivity, reducing your insulin resistance, and optimizing your health. Furthermore, if you are losing inches off your waist, then you are almost certainly making your cells more sensitive and less resistant to insulin.

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Obese Soldiers Are Too

Expensive, Army Study Suggests

Half of all active-duty male army soldiers are overweight, and one in five are obese. Obese soldiers cost the army much more in medical expenses, using nearly double the medical resources compared to those within a healthy weight. Obese soldiers were less likely to be seen medically for multiple trauma, but this may suggest that obese soldiers are not being deployed in combat as often, which is when such a medical emergency would be most likely.

An army doctor, Maj. Brian Shiozawa has been analyzing the height and weight data for 429,793 active male soldiers and cross-referencing those records with the soldiers' medical visits and treatments. Shiozawa recently presented his research at the Obesity Medicine Association's fall summit in Washington, D.C. He found that obese male soldiers sought medical treatment an average of 13 times a year in 2015 while normal-weight soldiers went an average of seven times a year.

"Are we employing them to go to the doctor, or are they fit to fight the nation's wars? At what point do we say to service members, 'You may be costing us more [than you provide to the military?]' Maybe we need a BMI ceiling. We are spending three to four times as much to maintain you than what we get from you." – [Dr. Shiozawa](#)

Shiozawa is a resident at the Uniformed Services University of the Health Sciences. He says he was inspired to do this research after serving as a battalion surgeon. He also says that his goal is to, "become an expert on Army obesity."

The study reports that 19.7 percent of the nearly 430,000 male soldiers within the study have a body mass index of more than 30, which qualifies as obese, and just more than half have a

BMI of 25 to 30, which is considered overweight. The largest percentage of soldiers found to be obese were between 25 and 34 years old.

Recommended:

- [How To Heal Your Gut](#)
 - [Detox Cheap and Easy Without Fasting – Recipes Included](#)
 - [Stop Eating Like That and Start Eating Like This – Your Guide to Homeostasis Through Diet](#)
 - [How to Make the Healthiest Smoothies – 4 Recipes](#)
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Flu Death Numbers Are Greatly Exaggerated

Wikipedia tells us that the flu virus results in “about 250,000 to 500,000 yearly deaths” worldwide. The CDC says that at least 36,000 people die from the flu in the U.S. each year. And every year this is the season when the media encourages everyone, including infants, pregnant women and elderly, to get a flu shot. We are told to disbelieve or ignore the fact that people who receive yearly flu vaccines can show reduced protection,¹ and that flu vaccination may actually increase the risk of influenza infection,¹ and that the shot is estimated to be only 20% effective,² and that what little effectiveness the shot does have diminishes quickly,³ and that the influenza vaccine may be one of the riskier vaccines we use regularly.⁴

For more than a decade, the CDC has been claiming that there are more than 200,000 estimated hospitalizations and at least 36,000 deaths contributed to influenza every year in the

United States.⁵ Now the CDC is saying that 80,000 Americans died of the flu in 2017. This would exceed the causes of death by car accidents or cancer or all of the other most likely causes of deaths in the United States. That averages out to 219 people dying every day from the flu, but since influenza is most prevalent in October and November we would be seeing about 450 to 500 deaths a day within the flu season.

Related: [How To Heal Your Gut](#)

These numbers are radically inaccurate. [Huffington Post in Canada reports:](#)

According to the [National Vital Statistics System](#) in the U.S., for example, annual flu deaths in 2010 amounted to just 500 per year – fewer than deaths from ulcers (2,977), hernias (1,832) and pregnancy and childbirth (825), and a far cry from the big killers such as heart disease (597,689) and cancers (574,743). The story is similar in Canada, where unlikely killers likewise dwarf Statistics Canada’s count of flu deaths.

“Even that 500 figure for the U.S. could be too high, according to analyses in authoritative journals such as the [American Journal of Public Health](#) and the British Medical Journal. Only about 15-20 per cent of people who come down with flu-like symptoms have the influenza virus – the other 80-85 per cent actually caught rhinovirus or other germs that are indistinguishable from the true flu without laboratory tests, which are rarely done. In 2001, a year in which death certificates listed 257 Americans as having died of flu, only 18 were positively identified as true flus. The other 239 were simply assumed to be flus and most likely had few true flus among them.

The British Medical Journal stated in 2005 that, “U.S. data on influenza deaths are a mess.”⁶

Related: [How To Detoxify and Heal From Vaccinations – For Adults and Children](#)

The CDC is counting all deaths caused by pneumonia as likely influenza-related deaths. Pneumonia has more than 30 different causes. Influenza is just one of them.⁷ The CDC's statistics on hospitalizations are extremely flawed too:

The US Centers for Disease Control and Prevention (CDC) [has claimed](#) that over 200,000 Americans are hospitalized and 36,000 die from the flu each year. However, [Dr. Joseph Mercola's investigation](#) of inflated flu shot statistics revealed that the hospitalization estimate includes not just those who are hospitalized with flu, but for pneumonia, respiratory, and even heart conditions.

The CDC's annual hospitalization statistic is untrustworthy for another startling reason. The CDC's 2012 to 2013 season analysis states that it determines its flu-associated hospitalization rates from the data provided by the Emerging Infections Program (EIP). However, the EIP only reports hospitalizations for which a laboratory test confirms a flu diagnosis. The CDC then calls this underreporting, and "adjusts" for it by applying a "hospitalization underreporting multiplier" of 2.7. This means for every real, documented case of influenza, the CDC multiplies it by nearly three." – [Alliance for Natural Health](#)

The CDC is using the media to scare the public into getting flu shots they do not need to create demand and profit. In 2015 it was reported to be a 1.61 billion dollar business.⁸ The CDC gets much of its funding from pharmaceutical companies and owns more than 50 different vaccine patents.⁹

If you want to stay well during the flu season, we recommend avoiding sugar and other refined foods and make sure your gut is healthy (see [How To Heal Your Gut](#)). That should be enough.

If you want to be extra cautious, take some vitamin C and sip on this [Root Cider](#) daily ([read our review here](#)). I also recommend having the following in your supplement cabinet in case you do begin to come down with something or if you eat some of those unhealthy holiday foods:

- [Ashwagandha](#)
- [Berberine](#)
- [Echinacea](#)
- [Elderberry](#)
- [Astragalus](#)
- [Vitamin C](#)
- [Probiotics](#)

If you feel yourself coming down with something, eat salads ([like these](#)), sip on the aforementioned root cider every hour, and get on the supplements listed above.

Excerpt from [article by Barbara Loe Fisher on Dr. Mercola's site](#):

Recorded Influenza Deaths Dropping in the 21st Century

Here is what I found: Since 1940, the highest number of influenza deaths recorded in a single year was 21,047 deaths in 1941. In fact, the mortality rate from influenza was NOT rising in the late 20th century – as the CDC employees have alleged – it was dropping.

There were only between 600 and 750 influenza deaths recorded annually between 1995 and 1997.³⁴ The most influenza deaths recorded in a single year since 1979 was about 2,900 deaths and that was in 2009, the H1N1 swine flu pandemic year!

CDC Expanding the Flu Vaccine Market Between 2000-2010

But that didn't stop CDC policymakers, along with drug company and medical trade association lobbyists ever present at the policymaking table, from using inflated influenza hospitalization and mortality estimates to justify expanding the influenza vaccine market:

- *In 2000, CDC policymakers voted to expand flu shot recommendations to all healthy Americans over age 50.³⁵ Out of a population of 300 million, there were 1,765 recorded influenza deaths that year.*
- *In 2002, CDC voted to add all healthy babies from six to 23 months.³⁶ There were 727 recorded influenza deaths that year.*
- *In 2006, CDC voted to recommend flu shots for all healthy children up to five years old as well as all healthy pregnant women in any trimester.³⁷ There were 849 recorded influenza deaths that year.*
- *In 2007, CDC voted to add all healthy children up to eight years old.³⁸ There were 411 recorded influenza deaths that year.*
- *In 2008, CDC voted to recommend annual flu shots for all healthy children up to age 18 years.³⁹ There were 1,722 recorded influenza deaths that year.*
- *In 2009, the Secretaries of Health and Homeland Security declared a national emergency because they said pandemic H1N1 swine flu was sweeping the country and tens of thousands of people could die. Liability free drug companies were told to rush an experimental swine flu vaccine to the market.⁴⁰*
- *In 2010, a year when there were 494 recorded influenza deaths, the CDC officials finally reached the ultimate*

goal of their long game: they told doctors to give annual flu shots to every American, healthy or not, from the year of birth to the year of death.⁴¹

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More Physical Activities and Sleep, With Limited Screen Time Leads to Higher Test

Scores – Study

A new study from the Lancet Child & Adolescent Health found that higher test scores for United States students aged 8 through 11 came down to three factors: a minimum of 60 minutes of physical activity a day, nine to 11 hours of sleep a night, and no more than two hours a day of recreational screen time. Kids who did all of those things had test scores that were four percent higher. Of the 4520 students examined, only 216, or 5 percent, of them met that criteria.

Recommended: [*Myth of Moderate Alcohol Benefits Debunked, and How Science Gets Corrupted*](#)

Take Advantage of Synergy

All three of these factors amplify each other, making this a compelling study.

Of the three elements identified, more children were getting enough sleep and watched less than two hours of screens a day. Only 18 percent of kids were getting at least 60 minutes of physical activity daily. Many adults are in the same boat, with the CDC reporting that only 23% of adults in the U.S. get enough exercise.

Getting enough exercise or physical movement can also affect sleep in profound ways. A study in the journal Sleep Medicine found that insomniacs got 85 more minutes of sleep a night after working out for four months. Sleep is especially important for young people. Another study recently found that high school students who got less than six hours of sleep a night were twice as likely to report drug use or poor decision-making skills.

One of the most commonly cited reasons for insufficient sleep? Screen time, especially before bed. Screens can delay bedtime.

They also make it harder for kids to wind down and disrupt the body's natural circadian rhythms. Excess screen time for children can lead to issues with cognitive functions, like language ability, memory, and task completion.

Recommended: [*Foods Most Likely To Contain Glyphosate*](#)

In Combination

When you consider how intertwined all of these factors are, it makes sense that kids that get enough sleep, exercise, and avoid excess screens are scoring higher on tests. Our take? Check out their diet, too. While we're all aware of the effect of too much sugar on kids and bedtime, getting the right nutrition goes way beyond that. This study examines the steps needed to set students up for success, and diet is absolutely the foundation.

Sources:

- [*Too much screen time, too little horseplay for kids: study – Digital Journal*](#)
- [*Associations between 24 hour movement behaviours and global cognition in US children: a cross-sectional observational study – The Lancet Child and Adolescent Health*](#)
- [*The Sleep and Exercise Connection That Can Change Your Life and Your Workouts – Shape*](#)
- [*Study flags later risks for sleep-deprived kids – Harvard Gazette*](#)
- [*New Study Shows Lack of Sleep in Teens Is Associated with Risky Behavior – Boston Magazine*](#)

Flu Shot Estimated Only 20% Effective Again, and New Study Shows Effectiveness Diminishes Quickly

This fall's flu vaccine is estimated to be 20 percent effective for the dominant circulating strain of influenza A, which is the same efficacy as shots given the past two years.

A new study of 6,610 human flu sequences predicts that this fall's flu vaccine will likely have the same reduced efficacy against the dominant circulating strain of influenza A as the vaccine given in 2016 and 2017 due to viral mutations related to vaccine production in eggs.” – [Science Daily](#)

Rice University researchers predicted the efficacy using a method called pEpitope, which is a fast and inexpensive way of estimating the effectiveness of a flu vaccine. The [latest pEpitope study](#) indicates that the pEpitope method is more accurate than the standard ferret tests.

The vaccine has been changed for 2018-19, but unfortunately it still contains two critical mutations that arise from the egg-based vaccine production process. Our study found that these same mutations halved the efficacy of flu vaccines in the past two seasons, and we expect they will lower the efficacy of the next vaccine in a similar manner.” – [John W. Cox](#), Rice University, Professor in Biochemical and Genetic Engineering

Another study shows flu vaccine effectiveness wanes over time.

The risk of getting the flu climbs about 16% every 28 days after getting vaccinated.

That means many people could be less protected during the height of flu season if they get vaccinated at the beginning of September.” – [Center for Infectious Disease Research and Policy](#)

We’re wondering if they will start recommending multiple flu shots per flu season soon.

Recommended:

- [How To Heal Your Gut](#)
- [How To Detoxify and Heal From Vaccinations – For Adults and Children](#)
- [Flu Shot Effectiveness Lessons After 28 Days](#)
- [Doctors Against Vaccines – Hear From Those Who Have Done the Research](#)
- [Influenza Vaccine – A Comprehensive Overview of the Potential Dangers and Effectiveness of the Flu Shot](#) (2014)

More doctors say men should think twice about prostate cancer screening

Reuters reports that an international panel of experts has concluded, “Most men shouldn’t get routine prostate cancer screening because the potential benefits are small and there are clear harms.”

The prostate-specific antigen (PSA) blood test is the test used screen for prostate cancer. Experts researched studies with a total of more than 700,000 men and found that if screening reduces prostate cancer deaths at all, it's negligible. The data indicates that PSA screening risks outweigh the benefits but despite that, the report states that those with a family history of prostate cancer likely still benefit from screening.

Although the results of this study suggest screening is not worthwhile, several guidelines advocate offering screening in some cases.” – [Prostate cancer screening with PSA test](#)

[Reuters quotes](#) co-author Dr. Philipp Dahm of the University of Minnesota as saying

Most, but not all, well-informed men that fully understand the trade-offs would choose not to undergo screening.”

Only those men who place more value in even a small reduction of prostate cancer mortality – these may be men at higher risk because of a family history or because of African descent, or those simply very concerned about ruling out a cancer diagnosis – may opt for screening. Shared decision-making is needed to help them arrive at a decision consistent with their own values and preferences.”

Chances are, [everyone has cancer](#). Most men with prostate cancer have low-risk tumors that haven't spread outside the prostate. Cancer screening for prostrates has gotten so good that men are being discovered with extremely low-risk cancers and then being aggressively treated for it with risks that far outweigh the cancer itself.

For the last few years, the media has gone back and forth on whether or not regular prostate screening benefits outweigh the risks. Our position is don't drink, don't smoke, keep your

gut healthy, and stay away from doctors unless it's an emergency.

Recommended:

- [Myth of Moderate Alcohol Benefits Debunked, and How Science Gets Corrupted](#)
 - [How To Heal Your Gut](#)
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How To Eliminate Morgellons

When Morgellons disease was first recognized most doctors believed it to be a delusional disorder, that it didn't exist, that is was most likely a combination of delusional parasitosis and obsessive picking of the skin. Doctors told their patients that Morgellons was all in their head, except for the skin lesions caused by self-abuse. Fortunately, scientists did some research. Recent studies have shown that the filaments accompanying Morgellons are composed of keratin and collagen and that is caused by the proliferation of keratinocytes and fibroblasts in epithelial tissue. Some researchers believe that the cause of this disease is an infection from a tick bite.

The study proved that filaments are not cellulose as found in cotton, linen, or other plant-based textile fibers, or chitin which would indicate fungal cells or insect exoskeletons.

They are biofilaments of human cellular origin produced by epithelial cells and stem from deeper layers of the epidermis, the upper layers of the dermis, and the root sheath of hair follicles.” – [NCBI](#)

Though studies are showing that the disease is real, conventional medicine is, of course, slow to acknowledge the disease. Googling “what causes Morgellons disease” gets you this non-answer:

Morgellons disease is a delusional disorder that leads to the belief that one has parasites or foreign material moving in, or coming out of, the skin. Morgellons disease is a little-known disorder that is often associated with nonspecific skin, nerve, and psychiatric symptoms. Some refer to it as a fiber disease.” – [MedicineNet.com](http://www.MedicineNet.com)

But, the next article is titled, [Studies show that infections—not delusion—cause Morgellons disease.](#)

Morgellons involves many symptoms common to auto-immune sufferers including:

- chronic, severe fatigue
- joint pain
- neurological problems
- memory and cognitive disruptions (including brain fog)
- mood changes
- crawling sensations on and under the skin
- the sensation of itching or biting
- skin eruptions or lesions with little black specks on or under the skin
- filaments or threads under the skin and erupting from the skin

Morgellons and Lyme disease have a lot in common. Both were thought to be mostly psychosomatic. Both are thought to be transmitted from a tick bite. Both are autoimmune diseases that cause the first four symptoms listed above. Both may be caused by *Borrelia spirochetes* (corkscrew-shaped bacteria associated with tick-borne diseases). And both can be healed through the same means.

Like many of our readers, I first heard about Morgellons Disease back in 2015 when singer/songwriter Joni Mitchell was hospitalized for the disease. In 2010, she told the Los Angeles Times, “Fibers in a variety of colors protrude out of my skin like mushrooms after a rainstorm: they cannot be forensically identified as animal, vegetable or mineral.”

We published an article about the disease in 2015 and then I received more than a dozen calls and emails asking for help within a couple of months. Within the last few years, I’ve helped teach more than twenty people how to regain their health and rid their body of all Morgellons symptoms. The good news is that every single person was able to eliminate the disease.

I suspected a Morgellons was a fungus. It looks like I was wrong about that. But, whether it’s Lyme, Morgellons, diabetes, cancer, or depression, the only treatment that works is holistic with primary emphasis on gut health. The reason for this is that an unhealthy gut overwhelms the immune system, whereas a healthy immune system (one that is not overwhelmed) can rid the body of almost any disease.

Below is a list of recommended supplements, but the right diet is absolutely imperative. Don’t skimp on the diet!

Morgellons Diet and Supplement Protocol

Here are three articles I put together on diet. This is indicative of how my family eats every single day.

- [*Detox Cheap and Easy Without Fasting – Recipes Included*](#)
- [*Start Eating Like That and Start Eating Like This – Your Guide to Homeostasis Through Diet*](#)
- [*How to Make the Healthiest Smoothies – 4 Recipes*](#)

We start off with cranberry lemonade and a huge salad every

morning. For lunch, we sometimes do a smoothie or we snack on some nuts and/or fruit or we just finish our massive 11-cup salads. For dinner, we always cook from scratch, which takes preparation and time, but it gets easier. Rice and beans, quinoa, lentils, millet, oatmeal, and amaranth are common staples for our cooked meals. We add lots of raw vegetables and herbs to our dinners as well, for instance, the rice and beans go great with chopped tomatoes and avocado, diced onions and garlic, and shredded turmeric and ginger. Eat raw herbs and cooked herbs together for maximum health benefits.

This is truly a lifestyle, not a diet, and it's one we live every day. You may not need to go to this extreme to rid your body of disease, but I find that most who are dealing with chronic illness need to take it this far, at least for a few months.

The salads are the most important part of this protocol! In fact, they are the most important part of all of my protocols. More than supplements, more than anything save getting enough water, the right kind of salads are imperative. Eat lots of salads with tons of different vegetables and herbs. Make sure they have at least 15 different vegetables and herbs. If you could see what packing your gut with salad does to your ecosystem under a microscope, you'd understand why I'm so passionate about salads. There is nothing more beneficially life-changing than developing a salad habit when the salads are big and diverse and homemade. They do more than any supplement or any other food to clean the intestinal walls of filth and develop a beneficial gut ecosystem. And that is the key to good health. A beneficial gut microbiome is a fortress against undigested proteins and unwanted pathogens. When the gut is not well these intestinal walls allow undigested proteins and pathogens to seep into the bloodstream wrecking havoc on the immune system. Salads feed the right gut microbes and the right microbes build a healthy microbiome.

The cranberry lemonade helps keep the kidneys and liver

working optimally. These organs typically get sluggish quickly when lots of pathogens are killed. If salads are #1, this cranberry lemonade is #2, and supplements are a distant #3.

For those with very serious gut issues, legumes and grains will be a no-no for the first few weeks, but when enough salad has been consumed, the gut should be able to reap many benefits from cooked foods like the dinner meals aforementioned.

Sweet fruit should be severely limited, and for the very ill, avoided until the gut is working better. Grapefruit, cranberry, avocado, lime, and lemon do not fall under this category.

Drinking fruit juice, even fresh homemade fruit juice, is not much better for you than refined sugar, so don't make the common mistake of thinking a fresh-juice fast is going to get you well. It has its benefits, but it doesn't usually rid the body of chronic disease.

Now that diet is covered, here's the supplement part:

Supplement Stack #1 – On an empty stomach, twice a day, early morning and late night

- 2 [Abzorb](#) (this is a probiotic and a systemic enzyme)
- 2 cups of cranberry lemonade
- Optional: Add a serving of the [MycoPhyto Complex](#)
- Optional: Additional [systemic enzymes](#) (systemic enzymes break down proteins that should not be in the body)

Supplement Stack #2 – With meals, three times a day:

- 5 of the [SF722](#)
- [Shillington's Blood Detox Tea](#)

- [Shillington's Blood Detox Formula](#)
- [Oil of Oregano](#)
- [Coptis Chinensis / Chinese Goldthread](#)
- [Shillington's Echinacea+](#)
- [MycoPhyto Complex](#)
- Optional: one serving of MycoPhyto Complex
- Optional [Intestinal Cleanse](#) (if bowel movements are slow)

Also, take absorb with any food that is difficult to digest.

If you can't afford many supplements, or are overwhelmed by this information and don't know where to begin, contact me. I don't ever charge to talk to people.

Protocol

6am – Supplement Stack #1

Take two [Abzorb](#) with a big glass of cranberry lemonade. This is the right time to take systemic enzymes if you chose to take them.

9am – Supplement Stack #2

Salad time! The MycoPhyto Complex company recommends to take on an empty stomach, but I like to take it with salads and smoothies too.

12pm – Supplement Stack #2

Homemade Smoothie Time! If you're extremely ill you may need to wait on the smoothies and just double up on the salads for the first week, but I've found that many people who were suffering from a plethora of ailments and having trouble recovering responded very well to pineapple smoothies. Pineapple smoothies (made with fresh pineapple), like the ones I have recipes for in the above link, pack a massive amount of enzymes and can help break down a lot of junk in the gut, while delivering large amounts of nutrition. But, fruit

smoothies have plenty of sugar, so it's a good time to repeat the supplements from 9am.

Use pineapple, coconut water, water, cranberry juice, or if you can withstand some sugar try granny smith apple juice, but don't use sweet fruit juices for smoothies. Always use fresh pineapple when using pineapple. Always add as many vegetables and herbs as you can. I also suggest adding [Total Nutrition Formula](#) or something similar ([here's a recipe](#)). If you want to make a smoothie without pineapple, I recommend coconut water as the liquid. Check out our [smoothie article](#) for more ideas.

3pm – Week 1 – Supplement Stack #2

3pm – Week 2 – Supplement Stack #1

6pm – Supplement Stack #2

Dinner time! Everything from scratch, nothing pre-made in any way, all whole food ingredients. See [this article](#) for more info and don't hesitate to contact me.

9pm – Supplement Stack #1

Finish off the night with probiotic support and leave them alone for the night to do their thing.

Three More Supplements to Consider – Die-Off, Heavy Metal Detox, & Bowel Movements

If a Herxheimer reaction is a concern (die-off) be sure to drink plenty of cranberry lemonade and I also recommend adding [Total Nutrition Formula](#) and the [Intestinal Detox](#). Here's a recipe to [make your own Total Nutrition](#). This way you'll get bentonite clay, charcoal, chlorella, spirulina, and more, which are all great for mitigating the die-off effects of a Candida detox, and they also chelate heavy metals.

You can take the Total Nutrition Formula with the smoothie or sprinkle it on the salad (or choke it down with water), and

take the Intestinal Detox anytime throughout the day as directed.

If you're not defecating easily and at least twice daily, I also highly recommend the [Intestinal Cleanse](#). It kills parasites and moves the bowels better than anything else on the market that I know of, by far. I recommend taking it with the antimicrobials.

Conclusion

Morgellons is scary. It often causes otherwise social people to become unemployed shut-ins. Unless the doctor is abreast of the latest science, they will likely treat someone with Morgellons as if they're mad. It's a really hard thing to live with. Medical science does not yet really understand it, but understanding a disease doesn't typically help big pharma to cure a disease. The good news is that every single person that I've worked with was able to completely eliminate all of the symptoms. It takes a few months, and a lot of discipline, but it's very doable. The first step is to heal the gut.