

Empower
Your Life
With Breakthrough
Microbiome Research

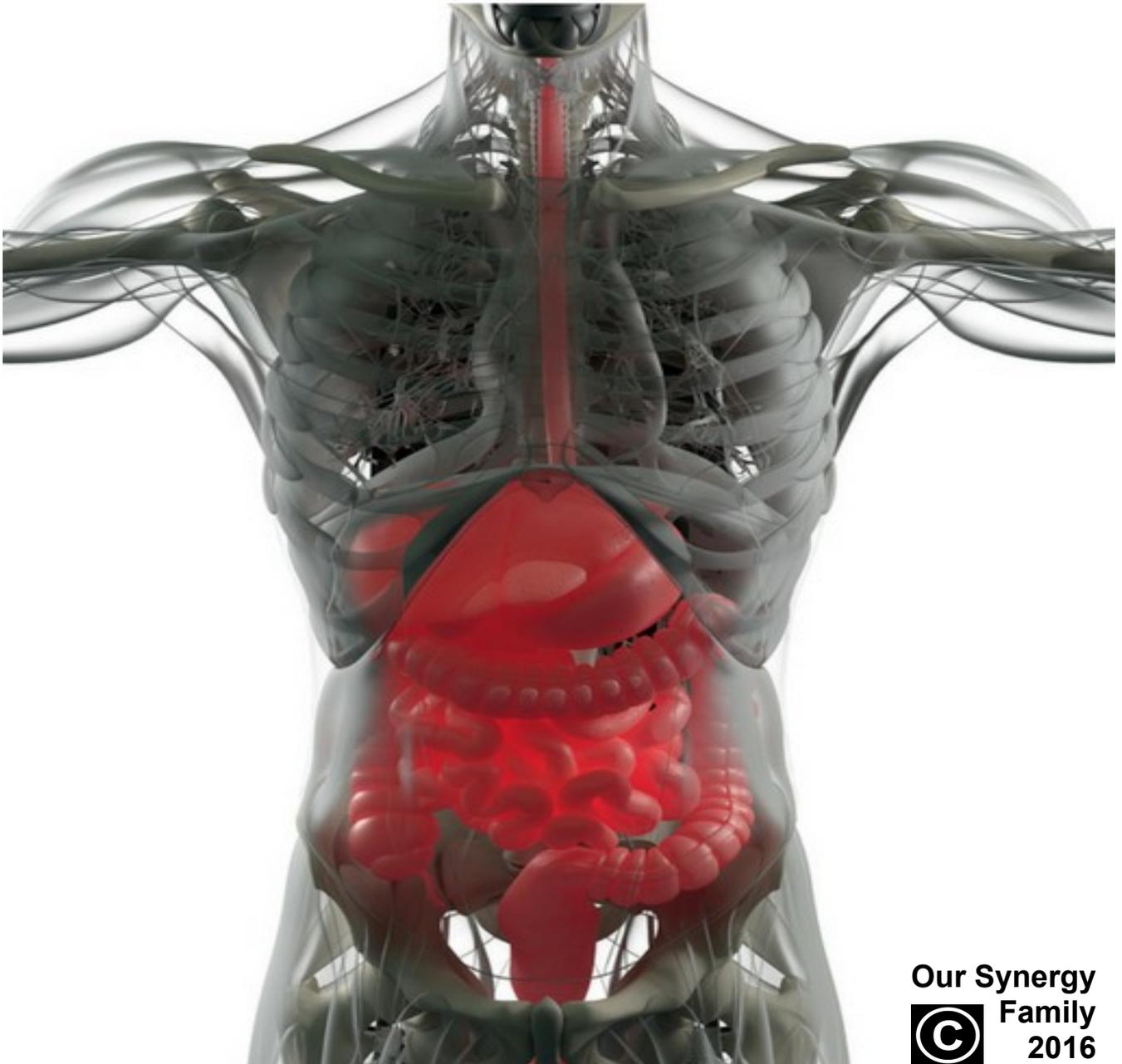


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Why Your Microbiome is Key to Good Health

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In 2001 the term “**Microbiome**” was coined by a researcher named Joshua Lederberg. The term applies to the **100 trillion microbial cells** that each person carries on and in their body.

Whether you believe in evolution or Creation there is a symbiotic relationship between these microbial cells and human cells. **A symbiotic relationship that either leads to good health or poor health.**

In fact, when you look in the mirror, what you see is your human expression of your human cells. However, if you had the eyes of a powerful microscope you would see a world of microbial cells that **outnumbered your human cells by a factor of 10.**

This has lead researchers in the area of the microbiome to use the phrase:

We Are Only 10% Human!



Why is this important?

The makeup of your microbiome significantly, if not entirely, impacts your health and wellness to the point where **every major disease and illness today has a link back to your microbiome.**

Even to your body composition of being lean or fat.

People used to blame their human genes for being overweight. And because of this, they felt powerless to change their physical appearance.

But science in the area of the microbiome, especially looking at your gut microbial communities, clearly shows this plays a far greater role in determining whether you are lean or fat.

This means that if you change your internal gut microbiome, you can significantly improve your ability to process food so that you **use food for energy instead of storing it as fat.**

This allows you to physically reshape yourself and address most of the metabolic health issues associated with being overweight and obese – like diabetes, cancer, and cardiovascular diseases.

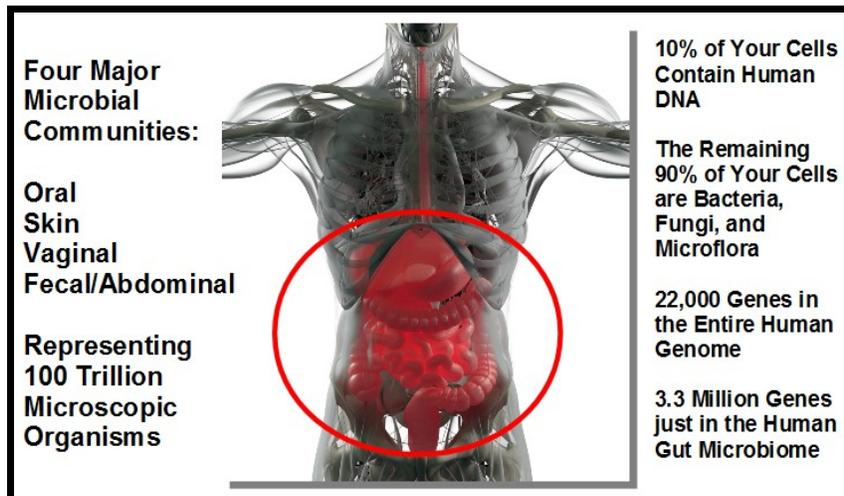
This e-book is designed to help guide you through this discovery process.

By doing it in terms that you can understand and apply, **you can significantly reshape your microbiome** so that it aids you in improving your health.

What is the Microbiome?

According to Merriam-Webster your microbiome is:

“A community of microorganisms (bacteria, fungi, and viruses) that inhabit a particular environment and especially the collection of microorganisms living in or on the human body. Your body is home to about 100 trillion bacteria and other microbes, collectively known as your microbiome.”



So what does this mean? On and in your body there are 4 major microbial communities:

**Oral
Skin
Vaginal
Fecal/Abdominal**

And when added together, this represents about 100 trillion microscopic organisms.

This means that 10% of your cells contain human DNA. **The remaining 90% of your cells are some combination of bacteria, fungi, and microflora.**

To help you better understand this let's talk about **“genes”** which are the building blocks of life. Genes carry the genetic instructions that shape and form every living thing.

There are 22,000 genes in the entire human genome.

There are **3.3 million (3,300,000) genes just in the human gut microbiome.**

This diversity in the gut microbiome is huge and plays a significant role in determining your overall health and wellness.

How does this play out in everyday living?

Individual humans are about 99.9% identical to one another as it relates to their human genes. However, they could be **80-90% different from one another in terms of their microbiome.**

And while the microbial communities of your skin, your mouth, and your reproductive areas are important, it's the microbiome of the gut or abdominal cavity that plays the greatest role in determining your overall health.

What this means is the genetic diversity found in **your gut microbiome allows you to digest compounds**, via enzymatic and metabolic pathways, not explicitly coded in your human genome.

And it's this diversity that allows you to properly extract energy as well as help your immune system function properly. **In fact every organ system in your body is affected by the chemical compounds produced by your microbiome.**

If you put this into environmental terminology, you are one large chemical processing plant. And you're either **polluting yourself with toxins leading to poor health**, or you are fueling yourself with clean environmental compounds that allow you to live a healthy and vibrant life.

And you are transitioning between these two ends of the health spectrum based on your daily choices to either support a healthy microbiome **or create a condition called dysbiosis** which contributes to most of the lifestyle diseases facing people today.

Preventing Dysbiosis By Purifying The Gut Microbiome

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When we use the term “purify the gut microbiome” we are talking about returning this microbial community back to a diverse collection of beneficial bacteria that will protect the intestinal cavity, as well as aid in the proper digestion and elimination of the foods you consume.

There are two basic approaches:

Using Pharmaceutical drugs and antibiotics

OR

Learning how to properly recolonize the gut flora through the use of natural nutrients, prebiotics, and probiotics.

Let's first look at how antibiotics and medications cause a condition called **dysbiosis**.

What this term means is that your delicate microbial communities have **become disrupted and imbalanced**, which can lead to poor health.

As the National Institute of Health points out in their scholarly article **Antibiotics and the Human Gut Microbiome: Dysbioses and Accumulation of Resistances**, *the human microbiome has been overly exposed to antibiotics from both the medical community and food industry.*

ANTIBIOTICS AND MEDICATIONS



This over exposure has both short-term and long-term health consequences, especially as it impacts your:

- *Immune System resulting in Inflammation and Autoimmune Diseases
 - *Metabolic Pathways resulting in Metabolic Disorders and Obesity Issues
 - *Resistance to Harmful Pathogens resulting in Increased Potential for Illness
 - *Resistance to Bacterial Infections resulting in Abdominal Distress
 - *Developing Antibiotic Resistances which lowers the Effectiveness of Medications
- *Source: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4709861/>

And while statistics in health care can be manipulated to show different outcomes, it's pretty clear what has resulted in the United States.

The United States has the highest expenditure on health care per capita **but ranks only 32 on attaining overall health goals**. And we've only gotten worse over time, not better.

The alternative is to learn how to recolonize your gut flora through the use of natural nutrients, prebiotics, and probiotics, as well as choosing foods that support good bacteria instead of supporting bad bacteria.

When properly applied, **the results are amazing** for most people. Here's the short list:

- **Supports** cellular integrity and function of the intestinal lining to reduce “leaky gut” and the potential for toxins to enter the blood stream.
- **Aids** in gut metabolism and microbiome balance for improved energy.
- **Activates** detoxification signaling to help rid your body of toxins that cause inflammation.
- **Supports** the elimination of heavy metals and how they can compromise your health.
- **Supports** the digestive system to reduce abdominal distress.
- **Provides** sustained energy and prolonged nutrient absorption to eliminate hunger and cravings.
- **Balances** gut bacteria through healthy elimination.

This list of benefits is just the opposite of the health concerns highlighted by the National Institute of Health on the use of antibiotics.

It all centers on how your microbiome reduces and controls the production of toxins.

How Toxins are The Root Cause of Most Diseases

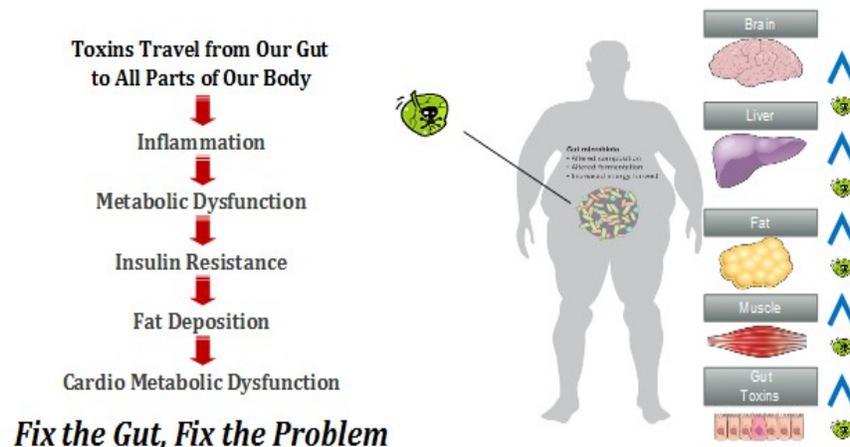
The makeup of your gut microbiome plays a significant role in your overall health and wellness. **As bad bacteria overwhelm good bacteria**, the result is an overproduction of toxins in the abdominal cavity.

There are several factors that cause this “**dysbiosis**” of your microbiome. They are, but not limited to:

- ✓ **Your Diet** – especially processed foods, high meat and dairy consumption, sugar, additives, overuse of salt, and bad fats
Source: <http://www.altmedrev.com/publications/9/2/180.pdf>
- ✓ **Antibiotics and Medications** – which we've already discussed
- ✓ **Oral Contraceptives**
- ✓ **Alcohol**
- ✓ **Obsession with Cleanliness**
- ✓ **Diet Low in Fermented Foods**
- ✓ **Stress**

As your gut microbiome is overpopulated with bacteria that produce toxins, the following sequence begins to happen.

1. **Toxins are produce** that cause inflammation of the gut. Not only can this cause abdominal distress, but it leads to a condition called Leaky Gut, which we'll talk about in the next section.
2. **Toxins enter** the blood stream either by attaching themselves to fat molecules or enter due to a leaky gut.
3. **These toxins create** inflammation throughout the body.
4. **Inflammation** can lead to Metabolic Dysfunction.
5. **Metabolic Dysfunction** leads to Insulin Resistance.
6. **Insulin Resistance** leads to Fat Deposition.
7. **Fat Deposition** leads to Cardio Metabolic Dysfunction.



Plus the toxins that enter your blood stream can have tremendous impact on key tissue and organ systems, especially your muscle tissue, fat storage, liver function, and cognitive impairment.

So, the key to solving the toxin issue is to recolonize the microbiome of the gut to those microbial communities that support good health.

This means: Fix the Gut, Fix the Problem!

And one big problem for most people is having a leaky gut.

What Does It Mean to Have a Leaky Gut

While the medical community does not recognize this as a major contributing factor to all sorts of health issues, there is a growing body of science showing how a leaky gut, or what is called **intestinal permeability**, is wreaking havoc on people's health.

This health concern is not new. In fact, **Hippocrates recognized it** when he stated,



“All Disease Begins In The Gut.”

Ideally, your intestine is designed to be a very selective barrier to everything you consume. It does this by creating what are known as “tight junctions.” As you can see in the below image created by **Dr. Vincent Pedre for Happy Gut**, these tight junctions are loosened so that undigested food particles, toxins, and pathogens can enter your blood stream.

HEALTHY GUT VERSUS LEAKY GUT

A healthy gut works like a cheese cloth, allowing only nutrients through, but keeping larger food particles and pathogenic bacteria, yeast and parasites out. In a leaky gut, the tight junctions are loosened so undigested food particles and pathogens can get through and activate the immune system, causing inflammation and food sensitivities.

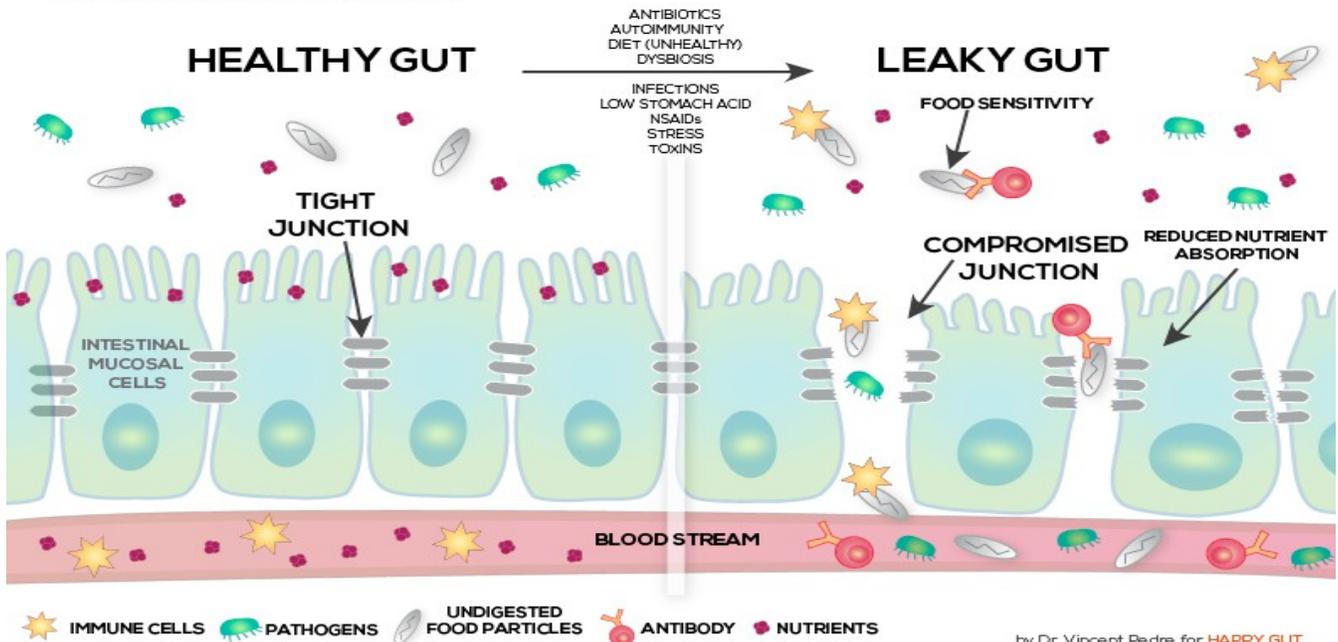


Image from: <http://www.happygutlife.com/2015/10/14/leaky-gut-what-is-it/>

The result is an immediate activation of your immune system causing inflammation and food sensitivities.

While not everyone has this, **the following checklist** will help you understand your increased probability for this issue. There are two columns: **Triggers and Symptoms**. The more you check off, the more likely you are to have some level of leaky gut.

Triggers

- Dietary Protein Especially Dairy and Meat
- Infections
- Use of Antibiotics
- Sugar Consumption
- Low Stomach Acid and Enzymes
- Stress
- Pregnancy
- Menopause
- Toxins
- Poor Diet
- Processed Food
- Bacterial Imbalance
- Lectins
- Alcohol Consumption

Symptoms

- Bloating
- Food Allergies
- Food Sensitivities
- Headaches
- Joint Pain
- Low Energy and/or Fatigue
- Thyroid Conditions
- Digestive Issues
- Weight Gain
- Mood Issues
- Skin Issues like Rosacea and Acne

While most people think **they eat “good” food, let's identify three triggers** from above that most people consume and how they can contribute to a leaky gut.

Lectins – Lectins are sugar-binding proteins used by plants as a natural defense system to protect themselves from mold and parasites. And while they protect plants, they damage your intestinal lining. The reason why is your digestive lining is covered with sugar-containing cells that help break down your food.

These lectins will attach themselves to your digestive lining causing inflammation that ends up damaging your gut.

And while there are a wide variety of foods that contain lectins, **these 4 will have the greatest impact: Wheat, Legumes (especially kidney beans), Peanuts, and Soy.**

Source: <http://www.danhammerhealth.com/turbo-charge-energy-eliminate-lectins>



Dairy Protein – Conventional cow's milk contains the protein A1 casein which is harmful to your gut. This is especially true if you're drinking pasteurized milk which destroys vital enzymes that are needed to help you digest sugars like lactose.

The best alternative to dairy is to **replace it with Almond Milk**, preferably 30 calories without any sugar added to it.

Sugar – Outside of wheat, this is the **number one contributor to poor digestive health**. And the reason why is that sugar feeds yeast, candida, and bad bacteria. All of which can create toxins that damage the lining of your intestine. As well as eat holes in your intestinal wall leading to leaky gut.

And the greater the dysbiosis of your abdominal cavity the greater your potential for a leaky gut.

So how do you correct this dysbiosis and potential for a leaky gut?

Our next two sections will help you identify the fastest way to bring your gut flora back into balance, and aid in the repair of the lining of your small intestine.

Prebiotics and Probiotics to Recolonize Your Gut

When you examine the research in this area, you'll see a heavy emphasis on what are called Probiotics.

Probiotics are good bacteria that will help you recolonize your gut flora with the types of bacteria that promote good health.

You can obtain them from supplements, food, or both.

Fermented foods are best because helpful bacteria are used to ferment or breakdown the food into more easily digested components. The top four foods in this category would be:



1. **Yogurt** – preferably from goat's milk as it's more easily digest than dairy and has a wider range of beneficial bacteria or probiotics.
2. **Kefir** – which is goat's milk and fermented kefir grains.
3. **Sauerkraut** – which is fermented cabbage.
4. **Pickles** – which can be more types of food than just cucumbers.

And when it comes to Probiotic supplements, there is always the **debate about live cultures that have to be refrigerated versus shelf stable cultures**. Regardless of which one you choose, they all must pass through the stomach, which presents a problem.

Due to the high acidic nature of the stomach, many of the probiotics don't survive the journey to the small intestine. This is one reason why you have to take such a large number of active cultures – say 50,000 billion CFU (colony-forming units).

However, by taking your probiotics with food or dark chocolate, you increase the number CFUs that make it into the small intestine. And the reason why is sugar helps coat them to provide protection from the acids of the stomach environment.

But sugars also feed the bad bacteria that you're trying to get rid of.
Which brings us to Prebiotics.



Prebiotics are non-digestible carbohydrates to you, but can be digested by probiotics. They are usually soluble fibers, which aid you in your digestion. When combined with water, they form a gel like substance that can withstand the acidic environment of the stomach. And when they enter the small intestine they become a meal for the bacteria you're trying to grow.

This means **you want prebiotics that will nourish the good bacteria**, not the bad bacteria.

And if you properly combine a prebiotic with the correct probiotic, you can then create a positive synergistic effect.

The prebiotic will form a gel-like coating to protect the probiotic through the stomach acids.

This helps more CFUs to make it into the small intestine.

Once in the small intestine, **the prebiotic becomes a healthy food source for the probiotic.**

This speeds the colonization of your gut microbiome with good bacteria while denying your bad bacteria with the food they need.

This helps to quickly reset your gut health so you can enjoy improved wellness.

So which are the best ingredients for doing this?

Inulin – is an excellent Prebiotic. In addition to nourishing the good bacteria it also assists with the digestion and absorption of your food. Inulin plays a significant role in your immune system. And seems to improve heart and bone health, reduce the potential for colon cancer, help protect against inflammatory bowel disease, and aid in preventing constipation.

Source: <http://articles.mercola.com/sites/articles/archive/2016/03/07/inulin-health-benefits.aspx>

Bacillus Coagulans – a spore-forming probiotic species that can withstand the stomach's acidic environment so when it enters the intestinal area it can colonize faster. One benefit is that it helps to enhance your immune system, which discourages pathogens through its lactic acid production.

They also aid in cardiovascular health while reducing cancer risks.

In addition to their superior survivability and colonization activities over the more common probiotics like lactobacillus and bifidobacterium, Bacillus Coagulans have been shown to help reduce irritable bowel syndrome, Crohn's disease, and inflammation associated with both osteoarthritis and rheumatoid arthritis.

Source: <http://www.lifeextension.com/magazine/2009/1/optimize-digestive-health/page-01>

Other Key Ingredients

The key to resetting your Microbiome is choosing Prebiotics and Probiotics that will quickly recolonize your gut flora. In addition, there are **8 other ingredients** that also play a huge role in helping you to reset your gut flora.

Pea Protein – The most common protein powder is whey protein from cow's milk. However, pea protein is equal to whey but provides for cleaner energy metabolism while it supports a greater diversity in healthy gut bacteria.

Because it's dairy free, pea protein is an **excellent protein source for vegans** as well as those with a lactose intolerance or sensitivity.



Pea protein is a complete protein, which means it contains all nine of the essential amino acids as well as branched-chain amino acids that are important for building muscle tissue.

Here's a direct side-by-side comparison:

	25 Grams Pea Protein	25 Grams Whey Protein
Calories	162.50	157.40
Carbs	8.8	8.7
Protein	25	25
Fat	2.6	2.1

It's important to note that **pea protein contains three times more L-arginine (1538 mg per 25 grams) than whey protein (461 mg per 25 grams)**. This is significant because L-arginine fuels 7 different metabolic pathways that are important for good health.

One of those pathways is the **endothelial pathway for the creation of nitric oxide**. Nitric oxide is the master signaling molecule for the cardiovascular system. Nitric oxide improves blood flow and helps protect you from cardiovascular diseases like high blood pressure, strokes, and heart attacks.

Pea protein has a bit of a “**slightly dirt-like**” flavor, but adding 1 tablespoon of Sunflower Butter will offset this. (**NOTE:** Of all the nut butters, use **Sunflower Butter - no sugar with salt**. It will taste just like peanut butter but without any allergens.)

Source: <https://draxe.com/pea-protein/>

L-Glutamine is an essential amino acid to **help treat leaky gut** and improve your overall health. The first wide spread use of this amino acid was in the fitness industry to help preserve muscle tissue.

But as science began to study this amino acid, the following benefits were documented:

1. **Improves** gastrointestinal health by helping the intestines rebuild and repair.
2. **Helps** heal ulcers and leaky gut.
3. **Helps** with memory, focus, and concentration as a neurotransmitter in the brain.
4. **Improves** IBS and diarrhea by balancing mucus production.
5. **Promotes** muscle growth and decreases muscle wasting.
6. **Improves** athletic performance and recovery.
7. **Improves** metabolism and cellular detoxification.
8. **Curbs** cravings for sugar and alcohol.
9. **Improves** blood sugar levels.

Source: <https://draxe.com/magnesium-supplements/>

Also, **L-glutamine supports intestinal cells to improve “intestinal permeability”**, which is the ability to prevent toxins from entering the blood stream (leaky gut). It also improves the ratio of good bacteria (bacteroidetes) to bad bacteria (firmicutes) to aid in weight management.

Magnesium is a crucial mineral required for the function of hundreds of enzymes in the gut to improve immunity, digestion, regularity, and energy production. And as your gut microbiome improves, magnesium aids in the production of healthy chemical compounds that can provide the following overall health benefits:

- **Helps** Increase Energy
- **Calms** Nerves
- **Treats** Insomnia
- **Aids** Digestion
- **Relieves** Muscle Aches and Pains
- **Regulates** Calcium and Potassium Levels
- **Is Important** for Heart Health
- **Prevents** Migraine Headaches
- **Helps** Prevent Osteoporosis

Source: <https://draxe.com/magnesium-supplements/>

Fructo-oligosaccharides is a prebiotic (like inulin) that helps support healthy bacteria. It's virtually calorie free but provides both body and flavor to the foods you're eating. **And while you can't digest it, your good bacteria can and they love it.**

This prebiotic will help you recolonize your gut microbiome faster allowing you to enjoy the following benefits:

- ✓ **Improves** mineral absorption
- ✓ **Helps** to decrease cholesterol levels
- ✓ **Reduces** constipation
- ✓ **Increases** calcium absorption
- ✓ **Increases** dietary fiber intake

Source: <https://www.ncbi.nlm.nih.gov/pubmed/20119826>



Psyllium Husk is a soluble fiber commonly used as a bulk-forming laxative. Because it slows down digestion, it **should be taken with food**. As it goes to work it can provide the following benefits:

- Relieves** Constipation
- Helps** Treat Diarrhea
- Helps** Control Blood Sugar
- May Boost** Satiety and Aid in Weight Loss
- Can Help** to Lower Bad (LDL) Cholesterol
While Raising Good (HDL) Cholesterol

Source: <https://authoritynutrition.com/psyllium-benefits/>

Zinc is a mineral (like magnesium) that is involved in over 300 different enzymatic pathways to help support optimal health. As it relates to your gut, **zinc helps to maintain both the population and diversity of good bacteria**. It plays a vital role in protein synthesis while helping to regulate cell production in your immune system.

Source: <https://www.organicfacts.net/health-benefits/minerals/health-benefits-of-zinc.html>

Flax Seed Powder – This key ingredient significantly **increases healthy gut bacteria while helping to reduce colonies of bad bacteria.** In addition to helping you improve your digestion, this ingredient also provides the following benefits:

- **Helps** Lower Cholesterol
- **Reduces** Sugar Cravings
- **Helps** Balance Hormones
- **Helps** Promote Weight Loss
- **Helps** Reduce Insulin Resistance
- **Supports** Colon Detoxification

Plus it's the richest plant-based **source of alpha-linolenic acid (ALA) and lignans.** ALA is an omega-3 fatty acid that helps reduce inflammation. Flax lignans stimulate your body's ability to produce lignans that help reduce the risk for breast, skin, and colon cancers.

Flax seed powder also contains a high concentration of mucilage gum, which is a gel-forming fiber that is water soluble and offers incredible benefits to your abdominal cavity. It helps keep food from emptying too quickly into the small intestine, which allows you to increase nutrient absorption.

It's also a great source of natural magnesium, which is critical to your gut microbiome and the enzymatic pathways needed for healthy chemical reactions.

Source: <https://draxe.com/10-flax-seed-benefits-nutrition-facts/>

Borage Oil is a natural ingredient that provides high levels of a fatty acid called **gamma-linolenic acid (GLA), which is a strong anti-inflammatory compound.** Additionally, it aids your immune system and helps fight the growth of cancerous cells.

Specifically, it shortens the life span of toxic cells while prolonging the life span of the healthy host cells.



Borage Oil can play an important role in helping to reverse the toxic environment of dysbiosis as you work to reset your gut microbiome with beneficial bacteria.

Source: <https://draxe.com/borage-oil/>

How Your Microbiome Addresses . . .

Microbiome research is just beginning to unfold as it relates to a whole host of diseases. And while specific treatment programs are still in development, one thing is clear.

The greater the dysbiosis – the greater the potential for disease!

The key to reducing your risk for “**lifestyle diseases**” is to reset your gut health with beneficial microbes that work symbiotically with your human genes so that both you and your microbiome work together more efficiently.

In our next section we'll give you the:



For now, here's a brief overview on how your microbiome addresses the following health concerns:

Autoimmune Diseases – Currently there are more than 80 different types of autoimmune diseases. Let's start with a basic understanding of the core component to this issue.

Most autoimmune diseases could be classified as a **case of mistaken identity**, meaning that your immune system targets normal proteins as if they were harmful to you. Normally, your immune system will attack specific pathogens and once cleared from your body, the immune system settles back down to its normal state.

But when your immune system targets normal proteins, it stays active **resulting in chronic inflammation**. And because your normal proteins will always be there, this immune system response doesn't go away.

Medications typically work to address the pain and symptoms. However, resetting your gut microbiome can play a significant role in helping your immune system properly target pathogens instead of normal proteins.

Dr. Alessio Fasano, a world-renowned gastroenterologist, views autoimmune disease as a three-legged stool.



Leg 1 – Genetic predisposition, meaning that certain genes when triggered will develop certain types of diseases.

Leg 2 – A trigger that your immune system sees as a threat (real or not) to send it into action. A good example is how gluten in some people is a trigger for celiac disease -- but not in others.

Leg 3 – Intestinal permeability, which we've already identified as having a “leaky gut.” This allows large compounds like proteins to enter the blood stream where they don't belong. And your immune system immediately targets them because of their location.

If you are suffering from an autoimmune disease like:

- ✓ **Type 1 Diabetes Mellitus**
- ✓ **Rheumatoid Arthritis (RA)**
- ✓ **Inflammatory Bowel Disease (IBD)**
- ✓ **Multiple Sclerosis (MS)**
- ✓ **Chron's Disease**
- ✓ **Fibromyalgia**
- ✓ **Muscular Dystrophy**

Using this three-legged stool concept can provide you with a way to naturally address these types of autoimmune diseases.

The first step is to consume natural ingredients that will help address and heal a leaky gut. We've identified several ingredients like L-glutamine, pea protein, magnesium, flax seed powder, and borage oil.

The second step is to combine prebiotics with probiotics to quickly reset your microbiome so that good bacteria can over colonize the bad bacteria to do two important functions:

- ✓ **Function 1** – Reduce the number of potential triggers.
- ✓ **Function 2** – Reduce the potential to trigger genetic predispositions

While this is not a guarantee to eliminate all autoimmune diseases, it is a viable option to improve your overall health and reduce your risk.

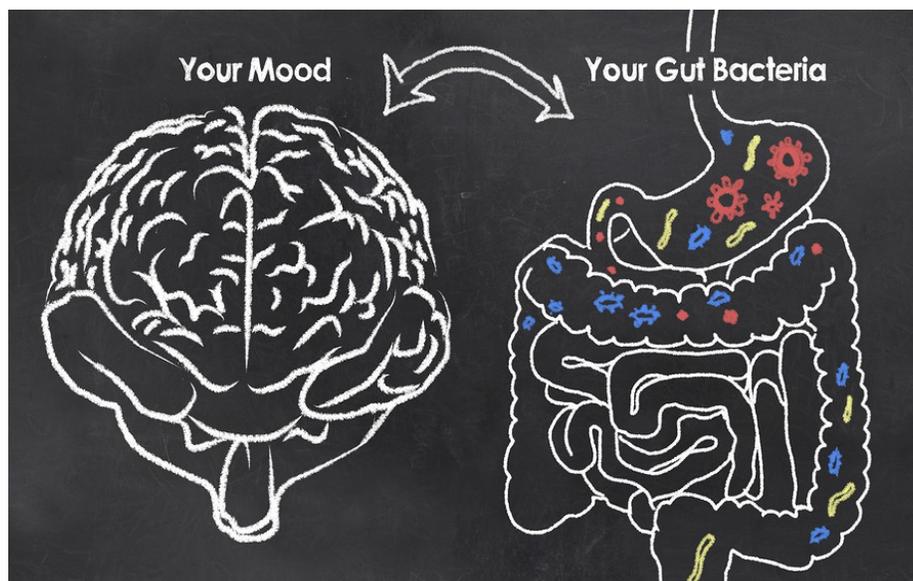
As the University of Washington points out: “Autoimmune diseases appear to be passed in families not by DNA inheritance but by inheriting the family’s microbiome.”

Sources: <https://chriskresser.com/does-the-gut-microbiome-play-a-role-in-autoimmune-disease/>

<http://newsnetwork.mayoclinic.org/discussion/sick-from-your-stomach-gut-bacteria-may-trigger-diseases-such-as-rheumatoid-arthritis/>

https://depts.washington.edu/ceeh/downloads/FF_Microbiome.pdf

Abdominal Distress – There are all types of abdominal distress issues like Irritable Bowel Syndrome (IBS). As research has developed in this area, what has been noted is a clear “mind – gut connection.” Meaning that what happens in the abdominal cavity is communicated with the brain.



And much of your abdominal distress is driven by stress.

As we've already noted, the gut microbiome is very complex and seeks to be in homeostasis. But with the largest number of immune cells, and nerve cells outside of your brain and spinal cord, and hormonal or endocrine cells in your body, **stress can create an environment of dysbiosis**, which leads to abdominal distress.

As your stress levels increase and become chronic, the microbiome **reacts to this by changing their gene expression**. This ends up producing toxins or enzymatic end products that can result in diarrhea, bloating, and constipation.

One of the keys to helping improve abdominal distress is learning how to better cope with stress. Whether through breathing techniques, meditation, bio-feedback, or other mental disciplines, it's still important to provide your abdominal microbial community the best environment for good bacteria to overpopulate bad bacteria.

Source: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3817711/>

<http://www.wbur.org/commonhealth/2016/09/16/the-mind-gut-connection>

Inflammation and Cancer – We've linked these two together because for **most cancers the starting point is inflammation**. This makes sense because inflammation is the starting point for most diseases, and is the basic reason why inflammation disrupts the normal gene expression for both human and microbial cells.

Below is a link to a fascinating overview titled **Microbiome, Inflammation and Cancer** from PubMed. While much of it is technical in nature, here is a summary of its key points:

- * Inflammation plays a major role in the formation and spread of cancer.
- * Microbes can influence tumor progression as well as suppress them.
- * The composition, both in quality and quantity, of your microbial community is critical to your health.
- * The metabolic activity of a properly colonized microbiome can:
 - a. produce toxins that destroy pathogens
 - b. alter the pH of the local environment to reduce the potential for cancer
 - c. metabolize key nutrients to starve competitors
 - d. maintain mucosal layers and epithelial integrity needed to protect you
 - e. properly activate your immune system
 - f. use both Prebiotics and Probiotics to create detoxification pathways to clear your system of toxic metabolites



What's clear from this article and most other studies is that **an environment of dysbiosis in the Microbiome creates an environment for inflammation**, which increases your potential for cancer.

*Source: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4112188/>

Diabetes – There are two types of diabetes:

1. **Type 1** is when the person's immune system destroys the ability to produce insulin. (see discussion in the autoimmune disease section)
2. **Type 2** is more of a metabolic syndrome issue where the person is not able to properly use insulin to regulate blood sugar levels.

Research shows that both types of diabetes have a microbiome component. In Type 2 Diabetes it starts with low-level inflammation which increases inflammatory components. This leads to insulin resistance so that blood sugars are not used for cellular energy, but are instead stored as fat.

Also, as this microbial dysbiosis increases, it can lead to an increased probability of

- ✓ **Diabetic Retinopathy**
- ✓ **Kidney Toxicity**
- ✓ **Atherosclerosis**
- ✓ **Hypertension**
- ✓ **Diabetic Foot Ulcers**
- ✓ **Cycstic Fibrosis**
- ✓ **Alzheimer's Disease**

To avoid this, follow the same basic elements needed for a healthy microbiome:

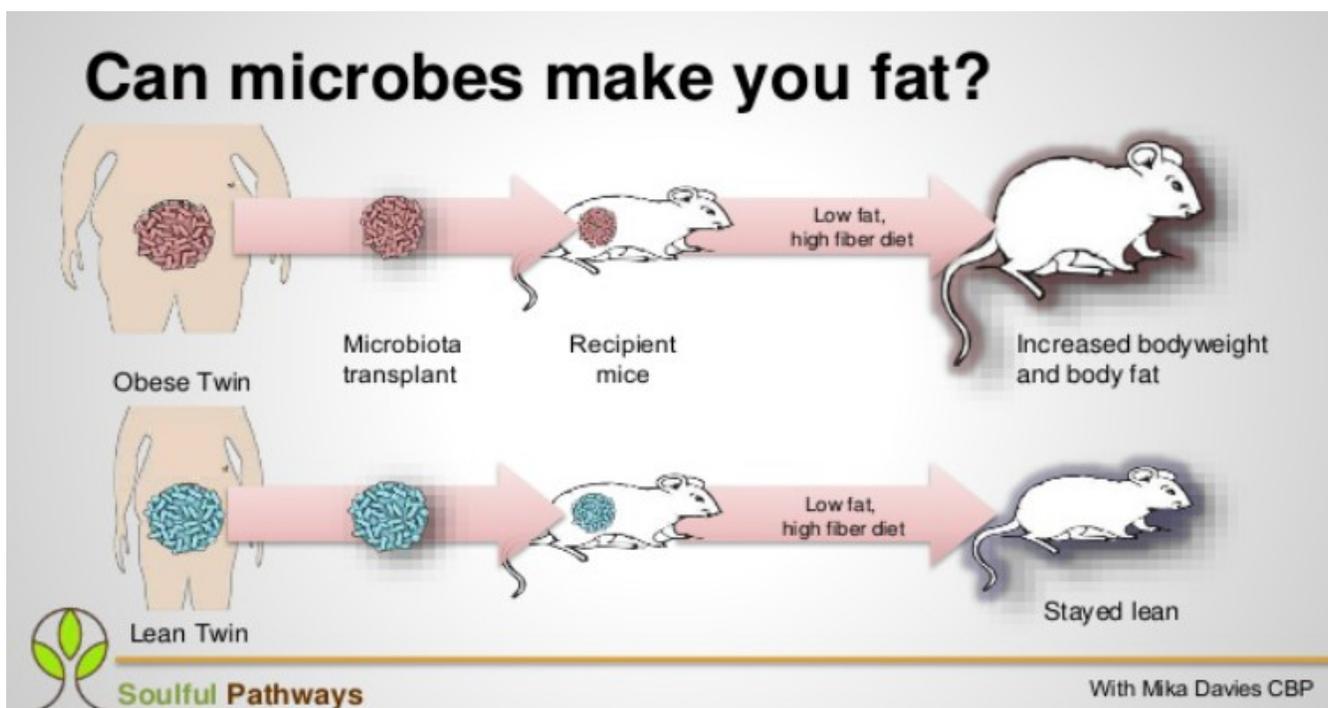
- **Maintaining** intestinal barrier integrity
- **Optimizing** normal metabolic functions or homeostasis
- **Protection** from infection
- **Enhancing** defensive mechanisms through the immune system
- **Influencing** the nervous system

Source: <http://www.sciencedirect.com/science/article/pii/S2213453013000451>

Weight Management & Obesity – More and more research is showing that this is not a human genetic issue but rather a microbiome issue. The most famous study in this area is the one done on identical human twins. Each twin has the same genetic makeup.

However one twin was overweight and the other twin was lean. Their human microbiome was injected into the gut flora of host mice so that the microbiome of the mice took on the nature of the human twin. Each recipient mice was given the same diet and daily activities.

The results were that the host mice with **the microbiome from the lean human twin stayed lean.** And, the host mice with the **microbiome from the overweight human twin gained weight and stored fat.**



And what was even more interesting was the makeup of the microbial communities between the two twins.

For the overweight twin, the microbial community was dominated by **Firmicutes**; whereas, the microbial community of the lean twin was dominated by **Bacteroidetes**.

Most studies now show that the higher your bacteroidetes compared to your firmicutes, the leaner you will be. There are a couple of triggers that increase firmicutes over bacteroidetes.

- **Trigger 1** – High intake of omega-6 fatty acids from vegetable oils. Most processed foods use some form of vegetable oil for shelf stability. The problem is these types of omega-6 oils trigger inflammation which favors the Firmicutes.
- **Trigger 2** – Animal protein creates less diversity in the microbial community, which then allows the Firmicutes to dominate.
- **Trigger 3** – Sugar and processed carbohydrates like wheat are fuel for Firmicutes, which again allows them to dominate your abdominal microbiome.
- **Trigger 4** – Stress triggers the releases of adrenal hormones like cortisol and adrenaline, which lower the Bacteroidetes in your abdominal cavity.

Several studies have shown how the standard American diet of sugary drinks, highly processed foods, high sugar consumption, and animal protein sources are causing children to develop microbial communities that are higher in Firmicutes than Bacteroidetes. This leads to weight gain in children and the onset of Type 2 Diabetes.

This also explains why some people have an extremely hard time losing weight. What was once thought to be a slow metabolism and poor human genes is no longer the case. Instead, their microbial community, and how it processes foods, plays a greater role.

Change the gut and you can change the outcome.

Source: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2945175/>

<http://drhyman.com/blog/2016/02/18/how-to-fix-your-gut-bacteria-and-lose-weight/>

<https://www.scientificamerican.com/article/how-gut-bacteria-help-make-us-fat-and-thin/>

The 3 E's and 4 R's For Gut Health

We've covered a lot of information. Hopefully it's clear to you that your microbiome is critical to your health. A healthy and diverse microbiome usually leads to better health and wellness. It also improves your ability to manage your weight.



In this section of our eBook, we want to give you a **recipe (or road map)** for restoring your gut health so that you can live a vibrant life. It all starts with the **3 E's**:

Eliminate Dysbiosis
Eliminate Leaky Gut
Eliminate Inflammation

It's these 3 conditions that you have to address. If you address them properly, then you'll experience a tremendous shift in your overall health.

To accomplish these objectives, we recommend the following **4 R's**:

Remove Foods and Factors That Damage Your Gut
Replace With Healing Foods
Repair With Specific Supplements
Rebalance With Prebiotics and Probiotics

Remove Foods and Factors That Damage Your Gut – You are what you eat and if you make choices that damage your microbiome, you will suffer the consequences. We acknowledge that change is difficult. But understand this:

When you change your microbiome to a healthy environment, you will find it much easier to make good food choices!

Why? – Because your microbiome is driving your food choices.

If you desire sugary drinks and processed snack foods it's because the microbiome of your gut is influencing your choices and **what they want to eat.**

Fix the Gut – Fix the Problem!

Here are our recommendations in order of importance:

- 1 **Eliminate all wheat products from your diet** – this will immediately help you eliminate inflammation and dysbiosis. Choose gluten free products as much as possible.
- 2 **Reduce your sugar consumption** – this will help you address inflammation and dysbiosis and reduce toxins that can contribute to leaky gut.
- 3 **Dramatically reduce your intake of vegetable oils** – this will address inflammation and leaky gut. Most processed foods use vegetable oils. If you're cooking with them, then stop. Instead, use omega-3 oils like extra-virgin olive oil.
- 4 **Limit your consumption of animal protein** – this will help address dysbiosis.
- 5 **Limit your alcohol consumption** – this will help address dysbiosis.
- 6 **Only use an antibiotic when necessary** – this will help address dysbiosis.
- 7 **Only take medications when necessary** – this will help address dysbiosis.
- 8 **Stop using oral contraceptives** – for women this may be a challenge but tell the guy it's time for him to start using condoms so that you can enjoy vibrant health and sex.
- 9 **Reduce your stress level** – this will address all 3 E's as it lowers inflammation, removes the potential for dysbiosis, and helps to prevent leaky gut.
- 10 **Get your needed sleep** – this will address dysbiosis.

Replace With Healing Foods – As you remove foods that are harmful to your microbiome, replace them with foods that will quickly recolonize your microbome with healthy and beneficial bacteria. Here are our suggestions.

(**NOTE:** Pick two that you feel will work best for you initially. Make the change for 30 days. Then add two more and repeat.)

- **Water** – increase your water consumption by adding Liquid Chlorophyll. Add 1 tablespoon of liquid chlorophyll per 16 ounces of water. This will help address inflammation.
- **Unsweetened Almond Milk** – replace milk with almond milk. This will address dysbiosis and inflammation. Some people like coconut milk but for most people Almond Milk is a fairly easy change.
- **Vegetable Protein** – this will address dysbiosis and inflammation as well as help heal a leaky gut. Listed below are recommendations according to their protein content:
 - Pea Protein Powder – 15 to 20 grams per scoop
 - 2% Greek Yogurt – 20 grams per 7 ounces
 - Lentils – 18 grams per cup
 - Peas – 8 grams per cup
 - Eggs – 6 grams per egg
 - Sunflower Butter – 5 grams per 2 tablespoons
 - Spinach – 5 grams per cup
 - Guava Fruit – 4.2 grams per cup
 - Sweet Potato – 2.1 grams per cup
- **Omega-3 Fats** – substitute your omega-6 fats like vegetable oils with extra-virgin olive oil or coconut oil. Avocados are also an excellent source of omega-3 fats. This will address inflammation and help heal a leaky gut.
- **Fermented Foods** – help address dsybiosis as well as reduce inflammation. Greek yogurt, Kefir, sauerkraut, and pickles are all good food choices.
- **Flax Seed Powder** – helps address inflammation and dysbiosis. This can be added to your health shakes and food to stimulate your body's production of lignans.
- **Vegetables** – whole and unprocessed vegetables help address both dysbiosis and inflammation. Increase your consumption by eating more spinach, broccoli, cauliflower, peas, and raw carrots. However, stay away from corn because of its sugar content.

Repair With Specific Supplements – There are so many supplements on the market that it would be easy to get lost in this area. We're going to give you just 4. But they are the **4 most important to consume** to help you address the 3 E's.

- ✓ **L-Glutamine** – This is always the first and most important one to add to your diet. It will address inflammation, leaky gut, and dysbiosis. You want to optimize the ability of the cells of your small intestine to function properly. And L-glutamine is the correct choice for this.
- ✓ **Magnesium** – This mineral addresses inflammation, leaky gut, and dysbiosis. It will help the proper enzymatic pathways to function, which produces chemical compounds that aid in digestion.
- ✓ **Zinc** – This mineral addresses dysbiosis by helping to fuel the enzymatic processes that help recolonize your gut microbiome with healthy, beneficial bacteria.
- ✓ **Borage Oil** – This nutrient addresses inflammation. Inflammation is such a big issue in gut health that you want to arm your microbiome with the nutrients it needs to address this issue.

Rebalance With Prebiotics and Probiotics – We recommend combining these two together to optimize the recolonization of your gut microbiome. Prebiotics both protect and feed probiotics. Probiotics bring good bacteria that is needed to recolonize your abdominal cavity. We recommend the following:

- **Prebiotic:** Inulin is always our first choice followed by Fructo-oligosaccharides and Psyllium Husk
- **Probiotic:** Bacillus Coagulans is our first choice. We know that there are others in this category but if you want to rapidly recolonize your gut microbiome, then this is the one to use.

We hope our 3 E's and 4 R's are easy to understand. Now it's up to you to put it to the test. If you do, and you see results, then please become part of The Million Lives Project.

The Million Lives Project

The goal of The Million Lives Project is to **help a million people or more understand how they could effectively reset their microbiome to significantly improve their gut health** while reducing their risk for all types of lifestyle diseases.

Our “goal” is also **giving people hope** in their constant battle to manage their weight. For the first time, we can help people understand that it's not their lack of will power or poor genes, but rather it's their microbiome that affects the outcome.

Fix the Gut Fix the Problem!

To help us accomplish this goal, we ask you to do one or more of the following:

- ✓ If you found value in the information contain in this eBook on Microbiome Research, then **please share it with others.**
- ✓ If you want to apply Microbiome Research to help you address your abdominal concerns, then **please contact the person who is sharing this information with you.** You can find them in the **About Me** section of this PDF.
- ✓ If you have a passion for helping others improve their health, please **consider joining Our Synergy Family.** Part of Our Mission Statement is Blessing Lives with Better Health. Again, contact the person in the **About Me** section so they can give you more information.



The Million Lives Project

Our Product of Choice

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The microbiome has and is creating a great deal of interest in the general public. With this interest has come a boat load of products all designed to help in this area – some more effectively than others.

We have chosen the **Microbiome Purify Kit from Synergy Worldwide** as our product of choice. It is a patented program, backed by clinical studies, **designed to reset your gut microbiome in 7 days.**

It incorporates many of the ingredients we've highlighted to rapidly improve your gut flora. The results have been amazing for those who have used these supplements and followed their program. **Here are the five component products.**

Biome Shake

BIOME SHAKE

Vegetable Protein

Microbiome Balance

- Microbiome repair with amino acids from protein
- Inulin feeds “friendly bacteria”

Detoxification

- Enhances elimination
- Supports digestive and immune systems
- Activates detoxification with broccoli powder and zinc.

Great Tasting Vanilla Flavor

Certified Vegan and Gluten Free



The Biome Shake is certified vegan and gluten free, which means it's a vegetable protein that fuels the correct microbial communities to help quickly balance your microbiome. It uses **Pea Protein** with key prebiotics like **Inulin** and **Fructo-oligosaccharides** to fuel your “friendly bacteria.” It contains **Borage Oil** and **Flax Seed Powder** to help address inflammation. Plus it includes **Zinc** and **Broccoli Powder** to help detoxify your digestive system while supporting your immune system.

The Biome Shake can be used both as a meal replacement to aid in weight loss or as a healthy meal that can sustain your energy and eliminate hunger for an extended period of time. **Plus it helps you to obtain clean energy metabolism that can also help with cognitive function.**

Biome DT

BIOME DT

Patent-Pending Formula

Detoxification

- Eliminates heavy metals and other toxins

Cleanse

- Cleans, lubricates and soothes digestive lining
- Lubricates and supports digestive system
- Supports healthy elimination

Microbiome Balance

- Inulin - Soluble fiber that feeds healthy microflora
- Glutamine - Gut lining repair

Second Meal Effect



The patent-pending **Biome DT** is designed to detoxify, cleanse, and rebalance your microbiome. It includes ingredients to help eliminate heavy metals and other toxins from your system to address inflammation.

The Biome DT includes **L-glutamine**. This ingredient supports your intestinal cells to address leaky gut issues. L-glutamine also helps to improve the ratio of bacteroidetes to firmicutes to aid in weight management.

In addition to **Inulin**, this product uses **Psyllium Husk** as a prebiotic that fuels favorable bacteria while providing bulk to the stools for healthy elimination. Other key ingredients include **Zinc** to maintain both the population and diversity of good bacteria, and **Broccoli Flowers** that produce compounds that address inflammation.

These ingredients provide a “**second meal effect**” to help you feel full in between your main meals.

Biome Actives

BIOME ACTIVES

Microbiome Balance

Probiotic

- 3 Billion CFUs of *Bacillus coagulans*
- Repopulates the gut to balance the microbiome

Prebiotic

- Inulin – Feeds healthy bacteria
- Encourages healthy balance of the microbiome

Use three times a day – Breakfast, Lunch & Dinner



Biome Actives combine your Prebiotic with your Probiotic to deliver more CFUs (colony forming units) to your small intestine. By using Inulin as your Prebiotic, you provide both protection and an ideal food source for your Probiotic.

Biome Actives also uses **Bacillus Coagulans** because it's a spore-forming probiotic species that is shelf stable on its own. This allows you to take it any place you go and not have to worry about refrigeration or spoiling. And as a spore-forming probiotic, it can withstand the stomach's acidic environment so that more CFUs reach the small intestine. **This allows for faster colonize in your abdominal cavity.**

Body Prime

BODY PRIME

Designed to support cleansing and bowel motility to prime your purification program.

Magnesium: a crucial mineral required for the function of hundreds of enzymes in the gut to improve immunity, digestion, regularity, and energy production.

Apple pectin: a prebiotic that helps to absorb, bind, and eliminate cholesterol, harmful bacteria, and toxins.

Prune powder: works synergistically with apple pectin to induce bowel motility.

Body Prime is designed to support cleansing and bowel motility to help prime your purification program. It includes **Magnesium**, which is a crucial mineral required for the function of hundreds of enzymes in the gut to improve immunity, digestion, regularity, and energy production.

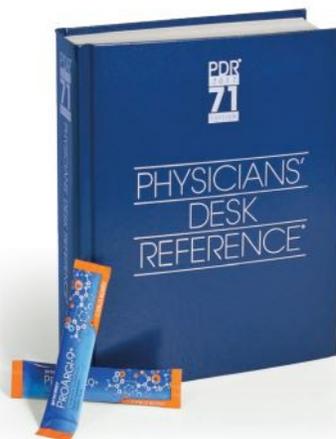
And, it combines **Apple Pectin with Prune Powder** so that they work synergistically to absorb, bind, and eliminate cholesterol, harmful bacteria, and toxins.



ProArgi-9+

In addition to resetting your gut health, you also want to address your cardiovascular system. **We are firm believers in the power of Nitric Oxide Therapy to improve blood flow**, and the best product in the world for harnessing Nitric Oxide Therapy is **ProArgi-9+**.

PROARGI-9+ AND THE PHYSICIANS' DESK REFERENCE



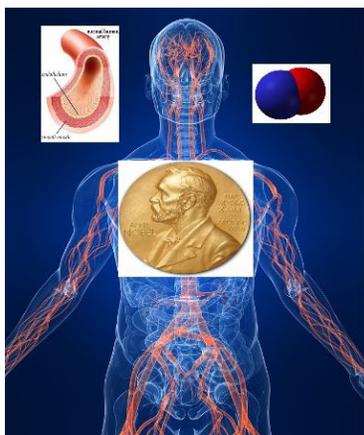
"PROARGI-9+ IS THE HIGHEST QUALITY L-ARGININE SUPPLEMENT IN THE WORLD."

—Physicians' Desk Reference (2017), pg. 1135

When combined with improvements in your gut health, you get even greater production of nitric oxide, which is the **Master Signaling Molecule** of your cardiovascular system.

Our Nitric Oxide Therapy eBook can provide you with more details in this critical component to your overall health and wellness.

If you want more information on why ProArgi-9+ is the absolute best product for harnessing the power of Nitric Oxide Therapy to improve blood flow, then **please click on the image below to watch our video on this product:**



Harnessing the Power of
Nitric Oxide Therapy

The ProArgi-9+ Advantage!



© 2017 Our Synergy Family

About Me

I belong to a group called Our Synergy Family. **We're passionate about helping others improve their health.** It's why we're sharing this information with you. **We believe that one of the most important keys to Elite Health is to reset your gut microbiome.**

This means that if you change your internal gut microbiome, you can significantly improve your ability to process food so that you use food for energy instead of storing it as fat.

You actually physically reshape yourself while addressing most of the metabolic health issues associated with being overweight and obese like diabetes, cancer, and cardiovascular diseases, as well as address autoimmune diseases and abdominal distress.

Almost every disease and illness affecting people today has a connection to your microbiome. Our goal is to help you quickly and effectively reset it to improve your health. If you have any questions about the information contained in our eBook, please contact me directly. **My contact information is below.**

And, if you would like to purchase **The Microbiome Purify Kit**, please contact me directly. Synergy Worldwide has a **Preferred Customer program that allows you to purchase at wholesale prices.** I can help you properly set up this program so that you can improve your microbiome with the best possible pricing options.