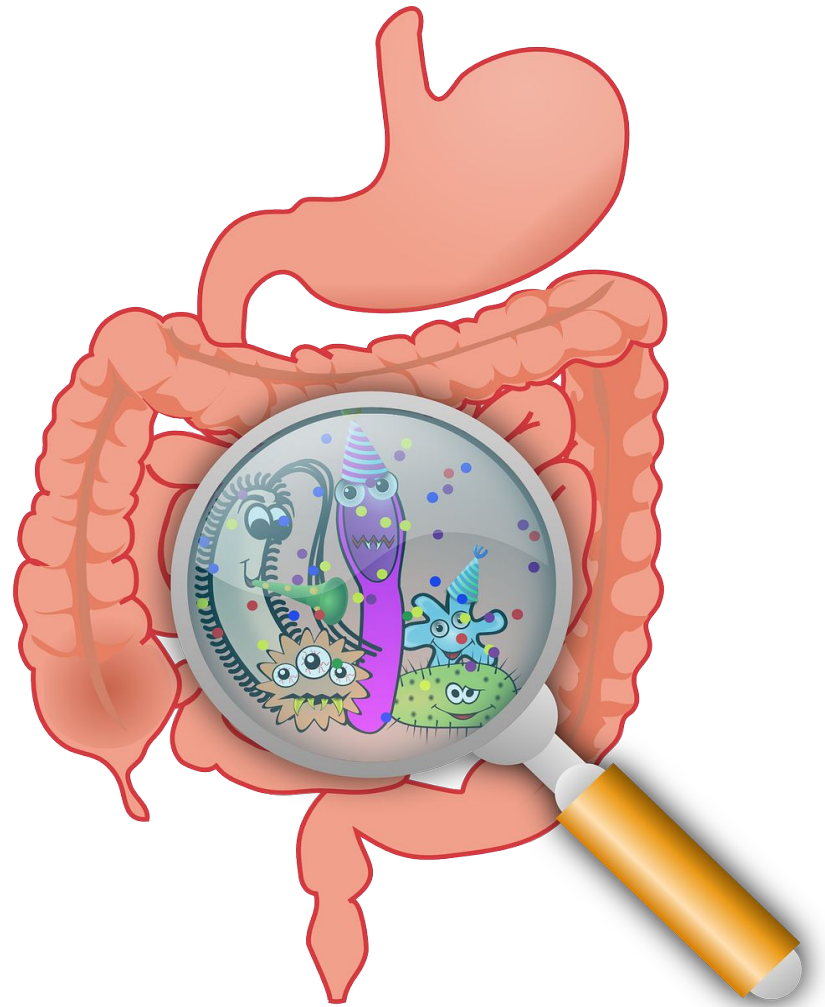


Gut Health 101

How To Promote A Health
Digestion System



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Why Is Gut Health Important

2

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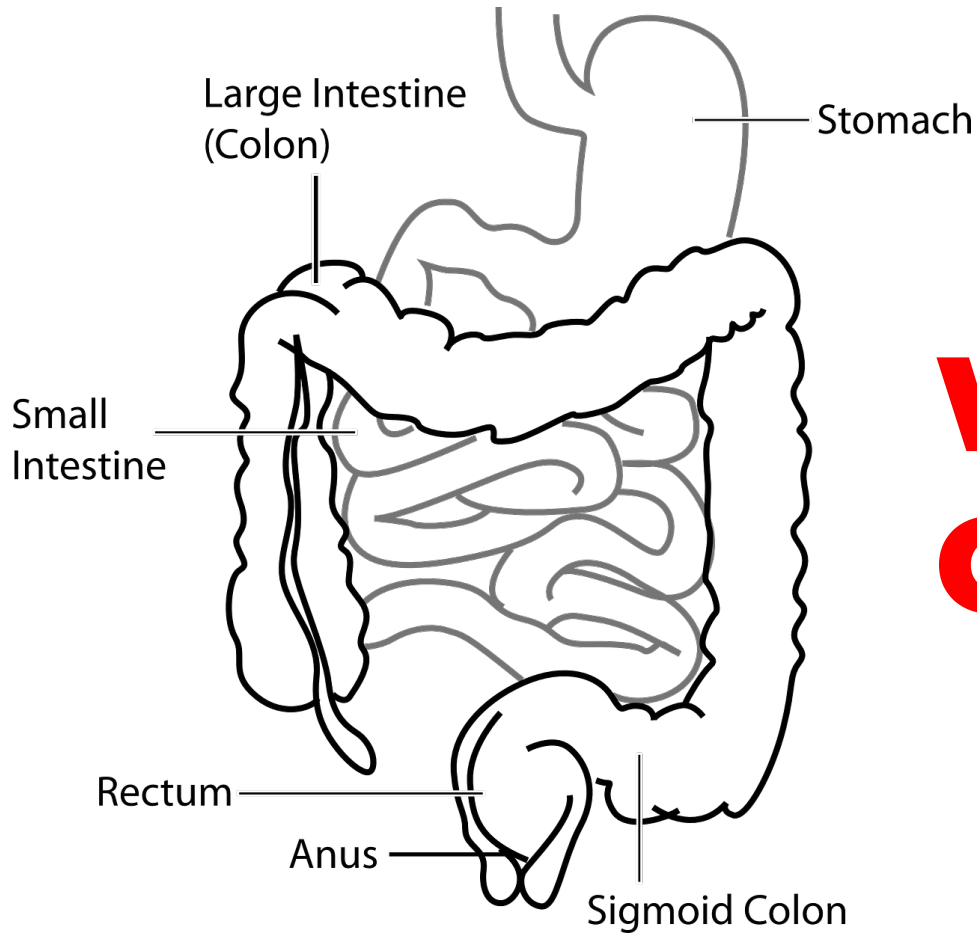
How To Improve Your Gut

Always Consult Your Doctor



Why Is Gut Health Important

Always Consult Your Doctor



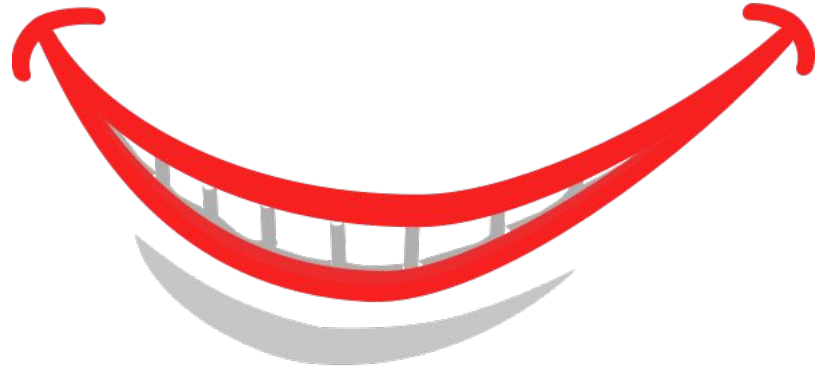
What Is Gut Health

Where Digestion Starts

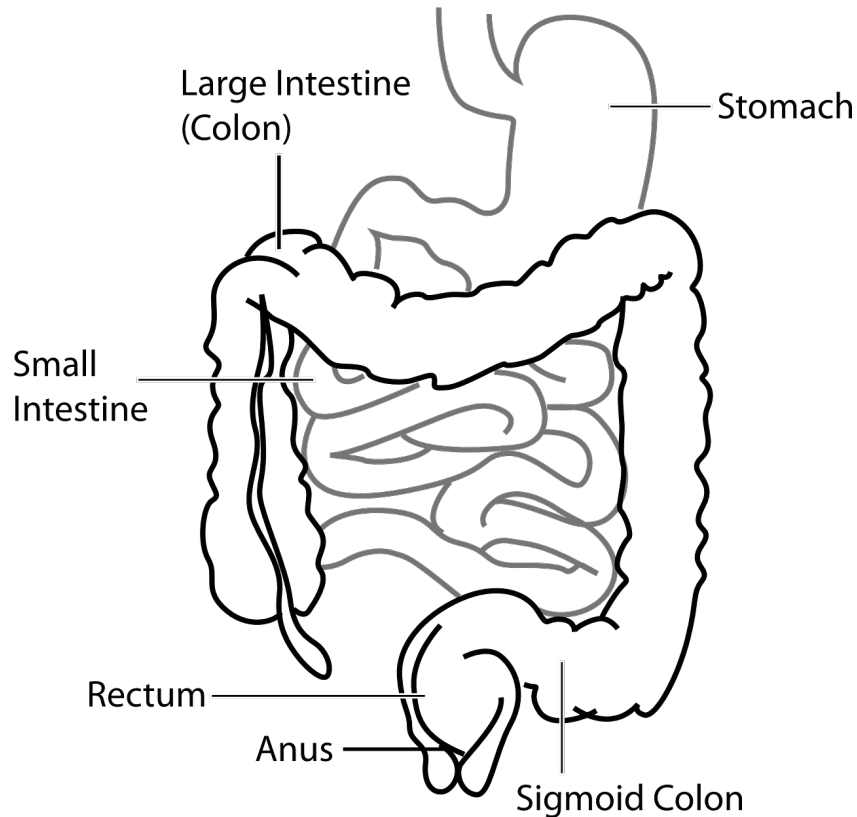
Our gastrointestinal tract is a very complex system that breaks down and absorbs the nutrients that we eat and gets rid of waste products.

- Mouth,
- Esophagus,
- Stomach,
- Small intestine,
- Large intestine,
- Rectum,
- Anus.

The liver (releases bile), pancreas (digestive enzymes), and gall bladder (stores bile to digest fat) also play a role in digestion along the way.



Digestion Continues



What's In The Stomach



Our Stomach does quite a lot...

- Digests food,
- Helps communicate information about our hormone levels and general health to our brain,
- Is a major part of our immune system

Close to 70% of our immune system is found in our gut as this is where our body encounters many pathogens.

Our gut microbiome is filled trillions of bacteria, archaea, and fungi that live in our digestive tract

These living organisms help with digestion, influence your immune system, and affect your central nervous system

Bacteria In Your Gut

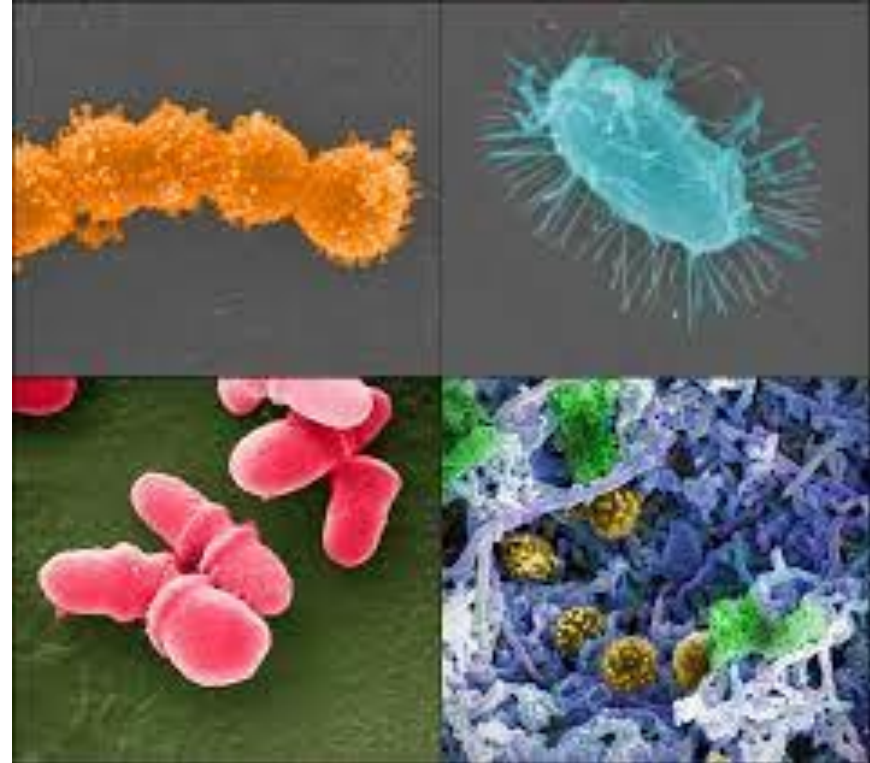
Number - 100 trillion bacteria in and on your body
(90% in large intestine),

Bacterial cells outnumber human cells 10 to 1 (You are 90% bacteria!)

Species - 10,000 species of bacteria in your body

1,000 species of bacteria in your gut

Weight - All the bacteria in your body weigh a total of 2-6 pounds



Functions Of The Gut Microbiome

- **Regulates immune function**
- **Prevents growth of harmful microorganisms**
- **Fermentation of indigestible food (fiber)**
- **Production of nutrients - Vitamin K2, B vitamins, Short chain fatty acids**
- **Influences hormone and neurotransmitter production**

What Affects Your Gut

Our overall gut health and ecosystem of microorganisms are influenced by many factors such as:

- **Lifestyle**
- **Stress**
- **Anxiety**
- **Nutritional factors**
- **Medications**
- **Infection**
- **Disease**



2

When Gut Health Goes Wrong

Digestion Disease Impacts

All Digestive Diseases

Prevalence: 60 to 70 million people affected by all digestive diseases

Ambulatory care visits: 48.3 million (2010)

Hospitalizations: 21.7 million (2010)

Mortality: 245,921 deaths (2009)

Costs: \$141.8 billion (2004)

Stats taken from National Institute of Diabetes and Digestion and Kidney Diseases



Unhappy Gut Signs:

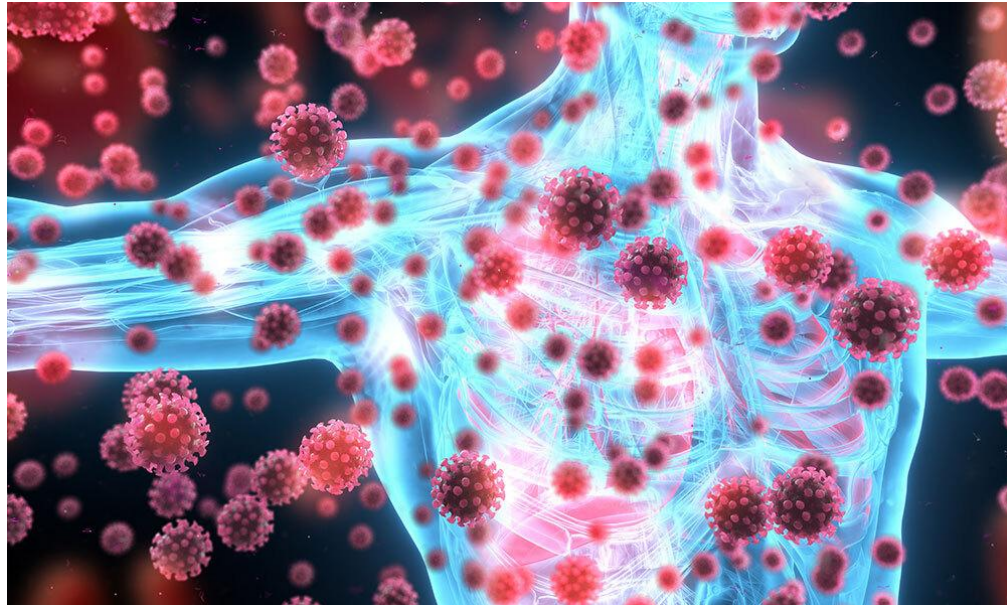
Signs that your gut health may be less-than-optimal include:

- Abdominal pain
- Abdominal cramping
- Excessive gas
- Heartburn or acid reflux
- Abdominal distention or excessive bloating
- Diarrhea or constipation
- Low energy/fatigue
- Nausea or vomiting
- Blood in your stool
- Urgency to use the washroom
- Micronutrient abnormalities (e.g., low iron, vitamin B12)
- Irritability, anxiety, or sudden mood changes

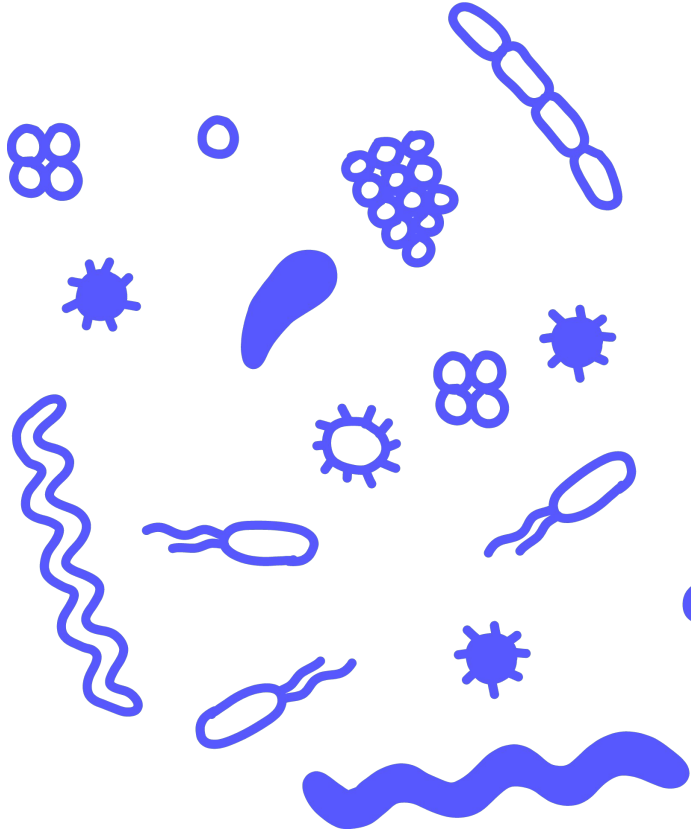


Health Effects Of An Altered Gut Microbiome

- Allergies and autoimmune conditions may be related to altered microbiome
- Increased inflammation, both in the gut and systemically
- Increases risk of chronic diseases and obesity
- Aging
- Reduced gut microbiome in older adults
- Impaired immune function
- Increased susceptibility to infection



Microbiome As An Ecosystem



Variety of species interacting with each other.

- Species may compete with each other for same food source
- One species' waste is another species' dinner
- Increasing/decreasing population of one species may affect many others

Different ecosystem in different locations.

- Food sources, acidity (pH), temperature, and humidity
- Different bacteria thrive in different conditions

Small alterations can have massive effects on the ecosystem.

Think of Desert vs Rainforest

Antibiotic Use

An average child is prescribed antibiotics 10-20 times by the age of 18

Commonly prescribed tetracyclines and macrolides, can kill healthy gut bacteria during use.

Antibiotics are often necessary, but their use alters the microbiome

- The microbiome may never recover from these changes
- This may contribute to increased risk of many diseases
- Can lead to gastrointestinal ailments and recurring infections

Experts say people taking antibiotics should eat foods rich in probiotics, such as yogurt and sauerkraut, while using the medications.



Sterile Modern Lifestyle...

Are We Too Clean?

- **Antibacterial soaps and cleaners - Purell**
- **Spending 90% or more of our time indoors - Office work and modern living**
- **Aversion to getting dirty**
- **Lack of beneficial bacteria in food supply**
- **Abundance of beneficial bacteria found in dirt/soil**
- **Bacteria is reduced in thoroughly washed or highly processed foods**
- **Dishwashers**



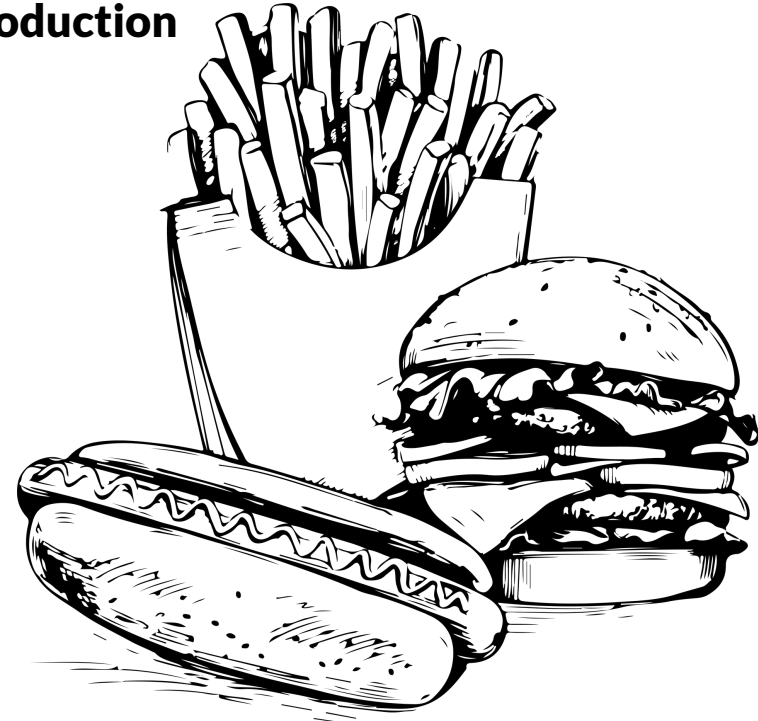
Food & The Microbiome

Dietary changes can significantly alter the microbiome within 24 hours

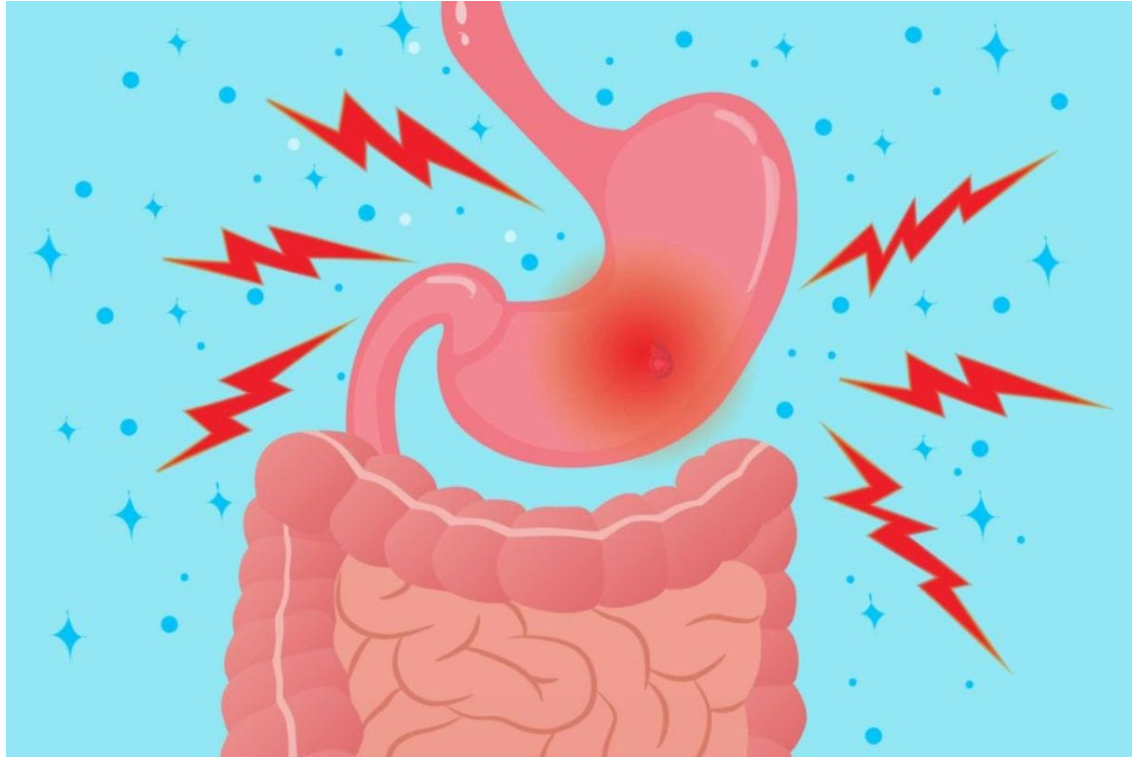
The gut microbiome impacts nutrient absorption and production

Unhealthy diet consequences

- **Nutritional deficiencies from poor diet**
- **Nutritional deficiencies from altered microbiome**
 - **Decreased absorption**
 - **Decreased production**



Common Digestion Issues



Constipation

Approximately 15% of the U.S. population experiences chronic constipation

Altered microbiome <--> Constipation

Dietary factors

- **Lack of Fiber**
- **Lack of Water**

Lifestyle factors

- **Physical activity**
- **Stress**
- **Toilet posture: sitting vs. squatting**

Irritable Bowel Syndrome (IBS)

A common disorder that affects the large intestine.

Signs and symptoms include cramping, abdominal pain, bloating, gas, and diarrhea or constipation, or both.

- **Changes in how often you are having a bowel movement**
- **Changes in appearance of bowel movement**

IBS is a chronic condition that you'll need to manage long term.

Irritable Bowel Syndrome (IBS)

Diet Triggers for IBS Constipation

- **Breads and cereals made with refined (not whole) grains**
- **Processed foods such as chips and cookies**
- **Coffee, carbonated drinks, and alcohol**
- **High-protein diets**
- **Dairy products, especially cheese**
- **Fried fatty foods**

Irritable Bowel Syndrome (IBS)

Stress and Anxiety Triggers for IBS

- **Work**
- **Your commute**
- **Problems at home**
- **Money problems**
- **A sense that things are out of your control**

Other Digestion Issues

Gerd - Acid Reflux

Celiac Disease - serious sensitivity to gluten

Crohn's Disease - inflammatory bowel disease (IBD)

Ulcerative Colitis - sores or ulcers develop in the colon's lining

Diverticulitis - Small pouches called diverticula can form anywhere there are weak spots in the lining of your digestive system



Let's Talk

Do you have any know food triggers?

How does stress impact your gut health?

3

How To Improve Your Gut

Always Consult Your Doctor

8 STEPS TO IMPROVE YOUR GUT HEALTH



1: Get A Proper Diagnosis & DO NOT Self-Diagnose

It is very important that you do not self-diagnose

👉 DON'T JUST GOOGLE IT

Use online testing kits, or start eliminating foods from your diet to try to determine what's going on with your body.

Always speak to your medical doctor first!

They can conduct the right tests and/or refer you to a gastroenterologist to rule out conditions such as inflammatory bowel disease

- Crohn's disease
- Ulcerative colitis
- Celiac disease
- Digestive cancers
- IBS



2: Optimize Meal Timing



Develop a consistent and regular eating schedule.

The Migrating Motor Complex - a pattern of electromechanical activity every 90 minutes your intestines have a wave of muscle contractions that help to flush through any residual food.

Grazing can prevent MMC from clearing out food and build-up of food residues through the digestive track. *This may contribute to bloating.*

2: Optimize Meal Timing



Eat balanced meals at least 3-4 hours between.

This will...

- **Keep your metabolism and energy levels up,**
- **Keep your blood sugar levels stable,**
- **Ensure you are getting enough nutrients throughout the day,**
- **Prevent you from being overly hungry at the next meal/snack, which can result in eating very quickly and/or overeating.**

3. Get Enough Fiber Each Day

Fiber is a type of carbohydrate that is not broken down or digested by the body and passes through the digestive system.

Benefits:

- Keeps us full for longer.
- Slows the digestion
- More stable blood sugar and energy levels.
- Prebiotics are fiber that helps to create a diverse and healthy ecosystem of microorganisms in your gut.
- Add bulk to your stool so that your intestines can push the food along in a timely manner, helping to prevent constipation
- Acts as a gel to bind the food residue together and trap water to keep things soft and intact, helping to prevent diarrhea
- Traps cholesterol in the intestine and pulls it out of the body, helping to lower cholesterol levels



3. Get Enough Fiber Each Day

Whole plant foods are main sources of fiber

- Vegetables
- Fruits
- Whole grains
- Beans and legumes
- Nuts and seeds

Association between high fiber diet and reduced risk of:

- Obesity
- Heart disease
- Cancer



3. Get Enough Fiber Each Day

Fermentable (feeds your gut bacteria)

- Soluble fiber: Onions, oats, nuts, apples, fruits, vegetables
- Resistant starch: Unripe bananas, oats, beans, cooked and cooled starches

Most plant foods contain a combination of soluble and insoluble fiber.

Non-fermentable (increases stool bulk)

- Insoluble fiber: Whole grains, nuts, fruits, vegetables

Some bowel conditions may require restriction of fermentable fiber.



4. Incorporate Stress Management Strategies Into Your Routine

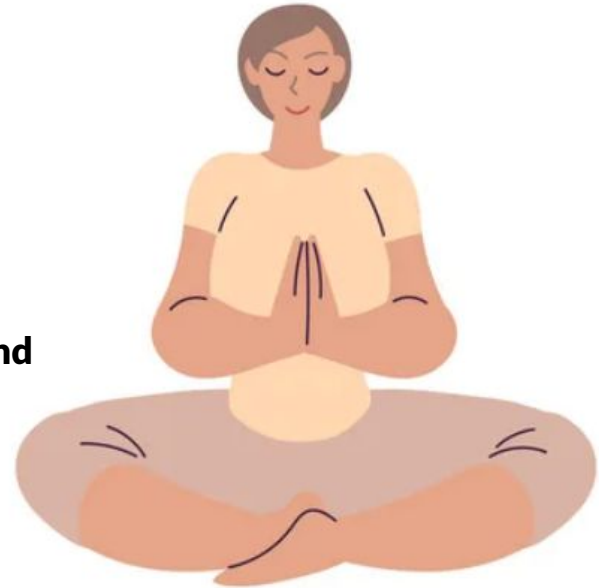
Enteric Nervous System - GI's own nervous system. This is how your gut and brain speak to each other.

Your mood and cognition can play a role in how our gut responds to food.

Stress=After Meal GI distress

Developing and practicing stress and anxiety management strategies such as Journaling, Meditation, or a mental health specialist.

Engage in mindful eating, where you are in a relaxed setting and able to take your time while eating.



Deep Breathing

A powerful way to slow down your body and mind through Deep Breathing.

Take five deep breaths

Holding your breath for 3 seconds between each breath

Breathe in through your nose and out through your mouth

Let's Try Now!



5. Incorporate A Variety Of Foods In Your Diet

A top-down view of a wooden table covered with a wide variety of fresh foods. In the upper left, there are pieces of raw red meat and chicken. To the right, there are yellow cherry tomatoes, a large red tomato, and several orange carrots. The lower half of the image shows a green bell pepper, a red apple, a green apple, a sliced avocado, a wedge of Swiss cheese, a glass of milk, a small bowl of white rice, and a bowl of mixed vegetables. The background is a warm, natural wood grain.

Elimination can help in the short term, but...

Our digestive tract and the microorganisms in it thrive on being exposed to a wide range of food and fiber. The more diverse our diet, particularly in plant-based foods, the more diverse our ecosystem of bacteria.

What To Avoid

Artificial sweeteners **May** cause alterations in the microbiome that lead to glucose intolerance and metabolic dysfunction. Use Moderation when consuming artificial sweeteners.

Avoid produce with high pesticide residues (next slide)

- Dirty Dozen
- Clean Fifteen





Dirty Dozen

1. Strawberries
2. Spinach
3. Kale
4. Nectarines
5. Apples
6. Grapes
7. Peaches
8. Cherries
9. Pears
10. Tomatoes
11. Celery
12. Potatoes



Clean 15

1. Avocados
2. Sweet corn
3. Pineapples
4. Frozen sweet peas
5. Onions
6. Papayas
7. Eggplants
8. Asparagus
9. Kiwis
10. Cabbages
11. Cauliflower
12. Cantaloupes
13. Broccoli
14. Mushrooms
15. Honeydew melons

6. Incorporate Probiotics Into Your Diet

Probiotics *May* help increase the number of good bacteria in the gut.

Research on taking probiotic supplements for general gut health is inconclusive.

There is good evidence that certain strains can be beneficial for certain digestive conditions,

Bifidobacterium longum 35624 has been shown to reduce symptoms of IBS.

PREBIOTICS



ONION



SOY BEAN



ASPARAGUS



BANANAS



LEEK



BREAD



ARTICHOKE



GARLIC

PROBIOTICS



AGED CHEESE



BITTER CHOCOLATE



KEFIR



SOUR CREAM



MISO SOUP



PICKLES



PROBIOTIC MILK



YOGURT

Choosing a Probiotic

In one study, only 1 out of 14 probiotic supplements contained exactly what was listed on the label (some had more, some had less)

Even the best probiotics may not make it to the gut intact.

If taking probiotics, you should:

- **Buy from a reliable source**
- **Compare the CFUs (colony forming units) (1-10 Billion)**
- **Keep refrigerated to maximize shelf life**
- **Use before expiration date**



Choosing a Probiotic

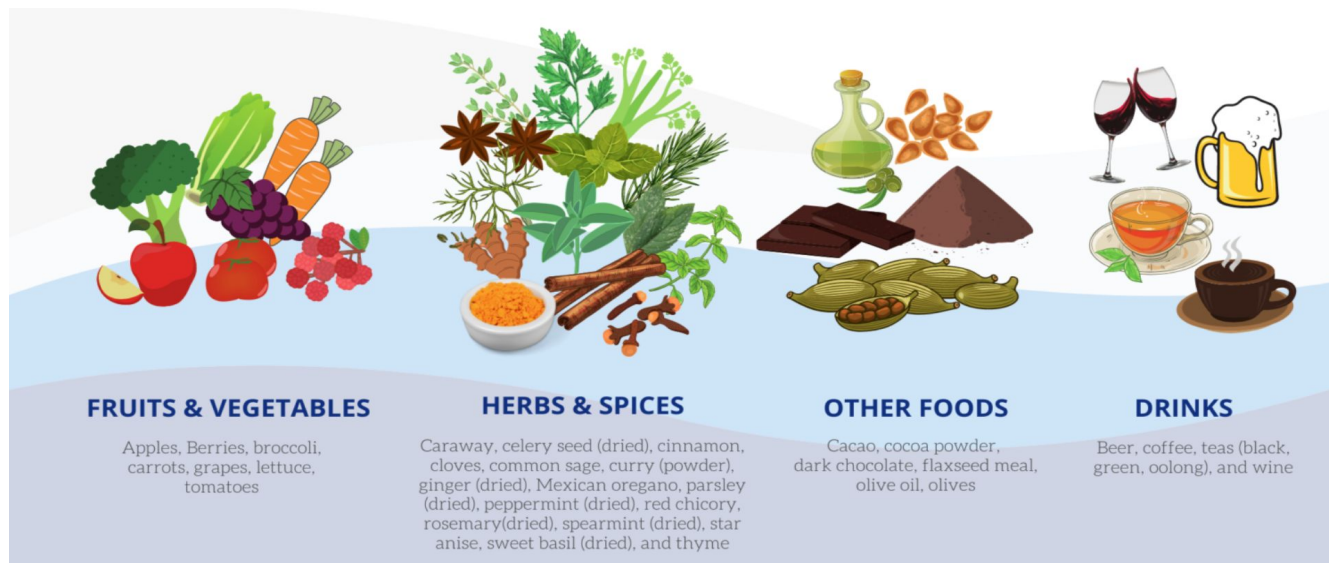
A quick look at the best probiotic supplements

- Best overall probiotic supplement: [Culturelle Digestive Daily](#)
- Best overall runner-up probiotic supplement: [Align Extra Strength](#)
- Best shelf-stable probiotic supplement: [Bio-Kult](#)
- Best affordable probiotic supplement: [Jarrow Formulas Jarro-Dophilus EPS](#)
- Best dairy-free probiotic supplement: [Garden of Life Dr. Formulated Probiotics Once Daily](#)
- Best allergen-friendly probiotic supplement: [NOW Probiotic-10 25 Billion](#)
- Best probiotic supplement for IBS: [Klaire Labs Ther-Biotic Pro IBS Relief](#)
- Best probiotic supplement for athletes: [Thorne FloraSport 20B](#)
- Best probiotic supplement for diarrhea: [Florastor Daily Probiotic for Women and Men](#)

7. Consume Foods Rich In Polyphenols

Polyphenols are plant compounds that have a variety of health benefits, including reduction in blood pressure, inflammation, and cholesterol levels.

Due to being poorly absorbed they are left to be food for the gut bacteria in the colon.





**8. Increase
Your
Water
Consumption**

Women 60-80 ounces plus

Men 80-100 ounces plus



Let's Talk

Which of the 8 steps do you think will help you the most with improving your Gut Health?

Test Your Own Gut Bacteria

American Gut Project - <http://humanfoodproject.com/americangut/>

uBiome - <http://ubiome.com/>

Both use results anonymously for research purposes

Results are not intended to diagnose or treat any medical condition

Your gut is a very important and complex component of your health. It's worthwhile to keep it healthy!

It's important to eat a varied diet, rich in plant-based and fermented foods, reducing stress, and limiting alcohol.

You can improve our gut health and hopefully reduce or eliminate unwanted symptoms associated with poor gut health.

Thank You

Questions?

Visit Me At

www.brianparana.com