



# Welcome to the 2023 Cha Chi Ming Educational Series on Brain Health

Thursday, June 22

6:00-6:15 Dr. Majd presents "Healthy Gut, Healthy Brain"

6:15-7:15 Chef Jared cooks Chana Masala with Raita

# The UW Osher Center provides Integrative Medicine Consults, Integrative Primary Care, and Acupuncture.

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We bring together conventional and complementary practices in a coordinated manner to promote health, illness prevention, and healthy living. We emphasize a holistic, patient-focused approach to health care and wellness – treating the whole person.

For more information:

<https://familymedicine.uw.edu/osher/patients/>



# Brain Health & Nutrition

6:00-7:15pm (virtual)

May 18

## **Mom Your Brain**

Dr. Emily Wong presents

Learn how we can engage mindset and purpose to take care of our physical brains

June 22

## **Healthy Gut, Healthy Brain**

Dr. Iman Majd presents

Optimizing gut microbiome for better brain function

Chef Jared Batson leads interactive cooking

July 27

## **Food for Thought: Meal Planning for Optimal Brain Health**

Kelly Morrow, MS, RDN, FAND

Incorporating nutrient-packed foods into balanced, flavorful meals to fuel our brains

August 24

## **Food or Supplements?**

Dr. Debra Bell presents

Do we need to take supplements for better brain function?

Chef Jared Batson leads interactive cooking

September 28

## **Food and Mood**

Dr. Tom Yang presents

How does food affect our mood?

Chef Jared Batson leads interactive cooking

SCAN TO REGISTER



Scan for recording of Mom Your Brain



link: [bit.ly/41ENSrH](https://bit.ly/41ENSrH)

## Iman Majd MD, MS, L.Ac.

Dr. Iman Majd, Director of the UW Osher Center, is an associate professor, Board Certified in Integrative Medicine, Family Medicine and acupuncture in the Department of Family Medicine at University of Washington, Seattle. He is the first physician to create a successful model incorporating acupuncture and Integrative Medicine consult in primary care at UW. He currently serves as the chair of the Board of Commissioners of the NCCAOM and is the Vice President of Medical Acupuncture Research Foundation (MARF).

Dr. Majd has a long history of advocating for integrative medicine and health at the national and international level, collaborating with national organizations on initiatives to make Integrative Medicine more accessible to all patients. His teaching philosophy is aimed at bringing academic knowledge into practice and helping the next generation of providers to harness skills for a data-supported person-centered integrated approach to health and well-being.

Dr. Majd has been involved with different research studies in the field of Integrative medicine and acupuncture, including his recent research on auricular acupuncture for pain management in a group setting that was funded by the American Academy of Family Physicians.

In his practice he uses an integrated East-West approach to health, bringing the knowledge and wisdom from Eastern and Western medicine together to educate his patients, collaborate with, and empower them in their journey to optimal health.

## Chef Jared Batson

At the age of fifteen Jared began his journey into the food industry and never looked back. As a chef, he has cooked and traveled across the country and worldwide, working under accomplished chefs in Chicago, California, and at the esteemed Ballymaloe Cookery School in Ireland. He is proud to have been mentored by James Beard & Bocuse d'Or winners alike, and would credit them for his own Jean Banchet Award, won with his business and team in Chicago. From a culinary standpoint both locally and abroad, Jared has fostered his desire to support sustainable agriculture and forward thinking restaurants that are pushing for impact beyond their menu.

More recently, while still living in Chicago, he brought this mindset to the acclaimed Green City Market, where he served as a Board Member and operated his popular wood-fired catering business for over four years. After passing the torch onto a fellow employee, Jared spent time consulting for various Chicago-Land food businesses, in addition to serving as the Executive Chef of Research & Development for a successful Chicago-Based multi-unit national restaurant group.

# Healthy Gut Healthy Brain

IMAN MAJD, MD, MS, L.AC

ABFM, ABOIM, DABMA, DIP. NCCAOM

# Can our Gut affect our Brain?

1. Learn how gut health is related to brain health
2. Learn an easy to prepare a meal with anti-inflammatory effects
3. Identify spices that can help reduce inflammation



# Gut – Brain Axis (GBA)

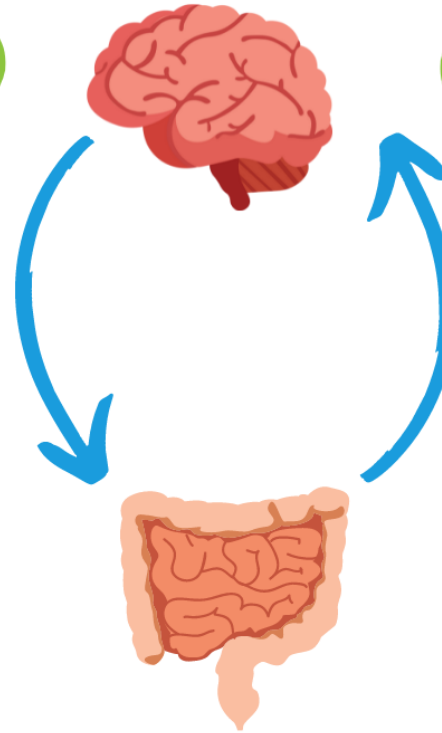
## What is the Gut-Brain Axis (GBA)?

### Brain To Gut

Stress, anxiety, and other mental health conditions have physiological consequences, such as disrupting gut motility and functionality, which results in symptoms such as constipation and stomach pain.

### Gut to Brain

Enteric nervous system in the gut produces neurotransmitters such as serotonin and metabolites which impact mental health conditions such as stress, anxiety, and depression and may even contribute to personal characteristics.

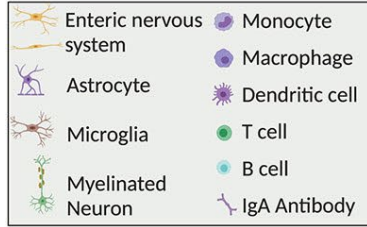


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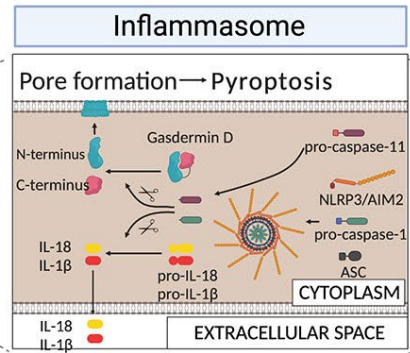
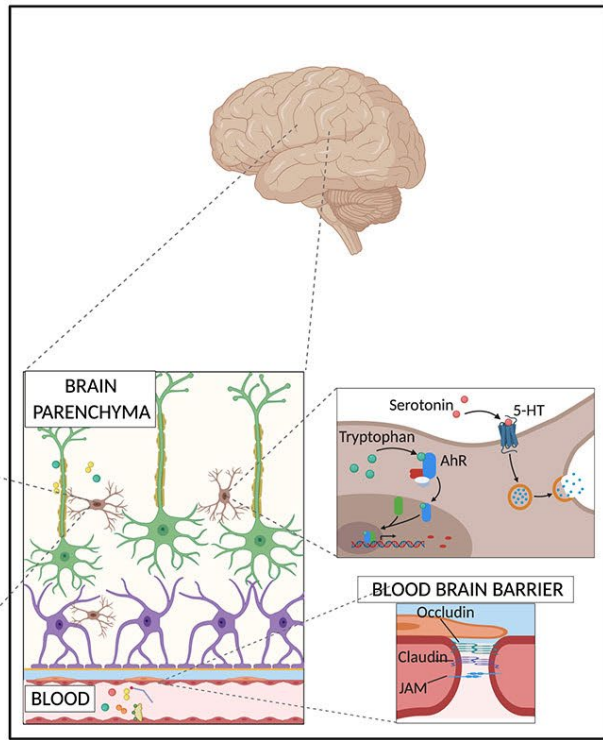
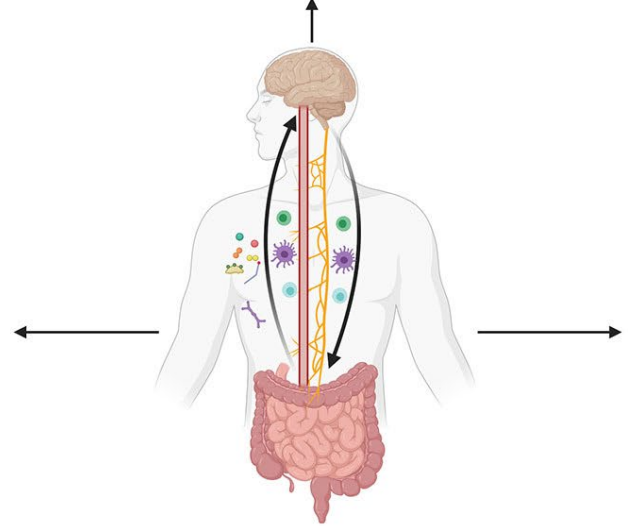
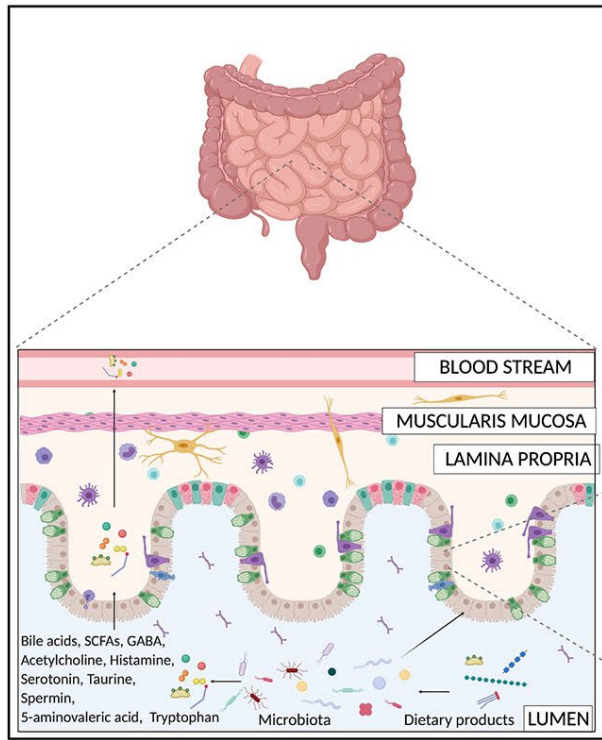


Learn more at [gastrohealthpartners.com](https://gastrohealthpartners.com)!

# Healthy Gut-Brain Axis



- Synapse Formation
- Calcium signaling
- Microglia Differentiation
- Cognition
- Learning
- Memory
- Mood
- Locomotion
- Eating behavior





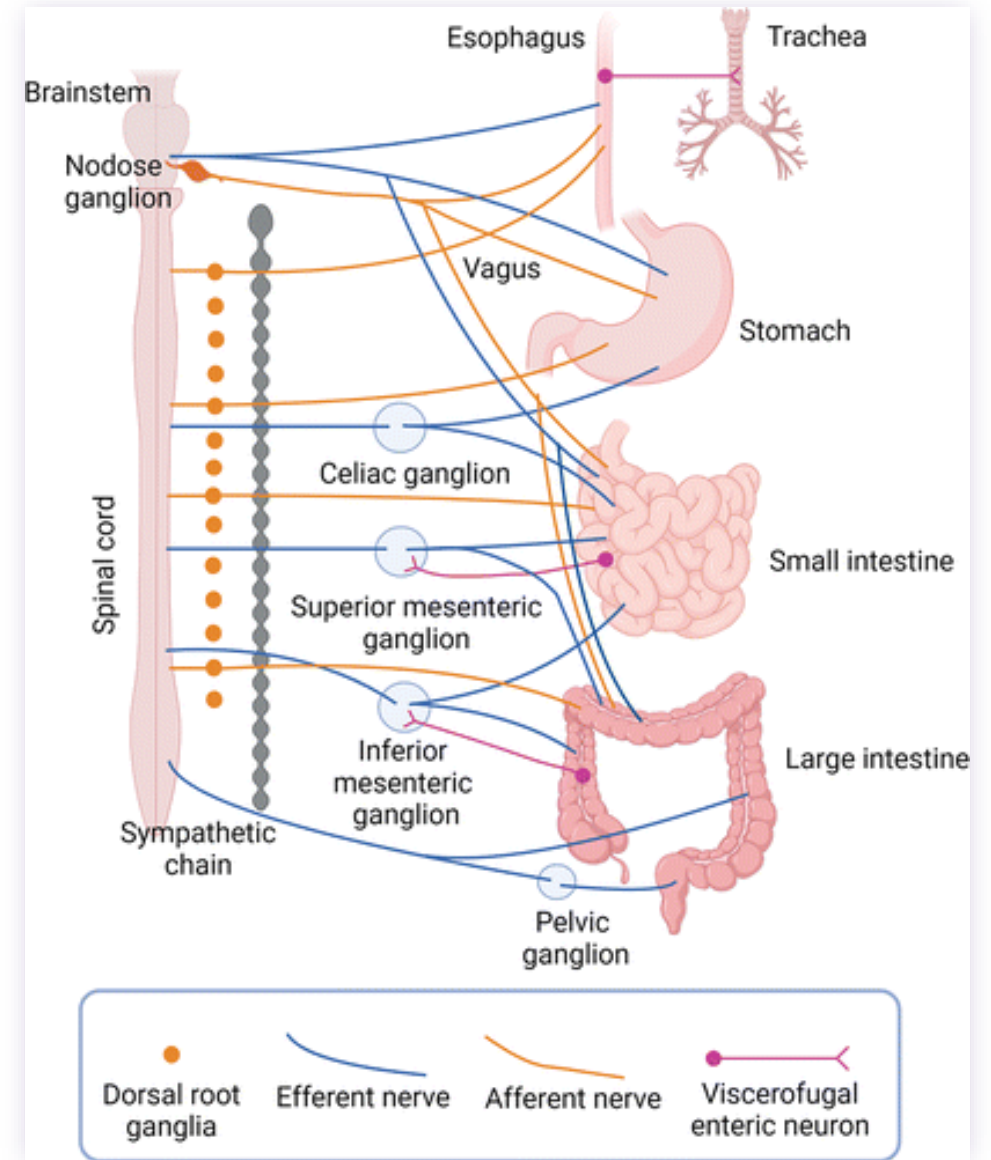
# Can our Gut affect our Brain?

## Gut Microbiota

A collection of microorganisms, mostly bacteria

- ❑ Digestion
- ❑ Vitamin synthesis : K and B (B5, B7, B12)
- ❑ Help with integrity of gut lining

Imbalances or disruptions in the gut microbiota (dysbiosis) have been linked to conditions such as anxiety, depression.



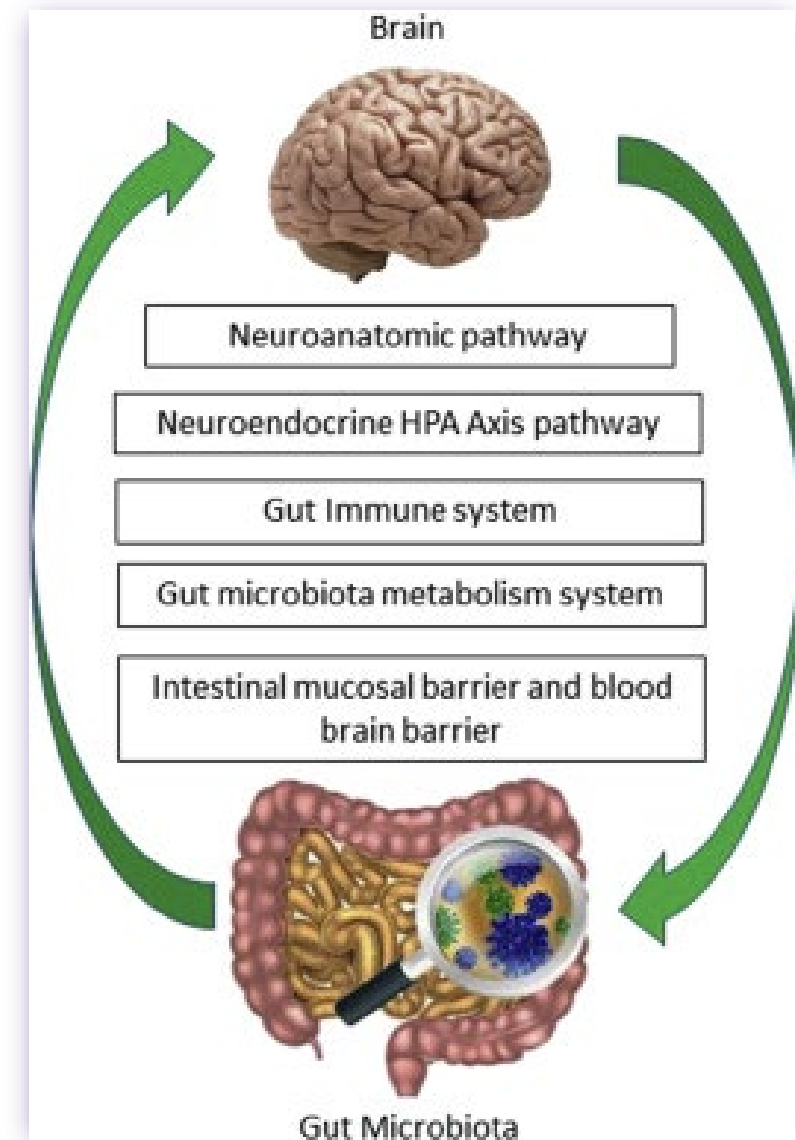
# Can our Gut affect our Brain?

## Neurotransmitters

Produced by enteric nervous system:

- ❑ serotonin, dopamine, and gamma-aminobutyric acid (GABA)
- ❑ Regulating mood, behavior, and cognitive function

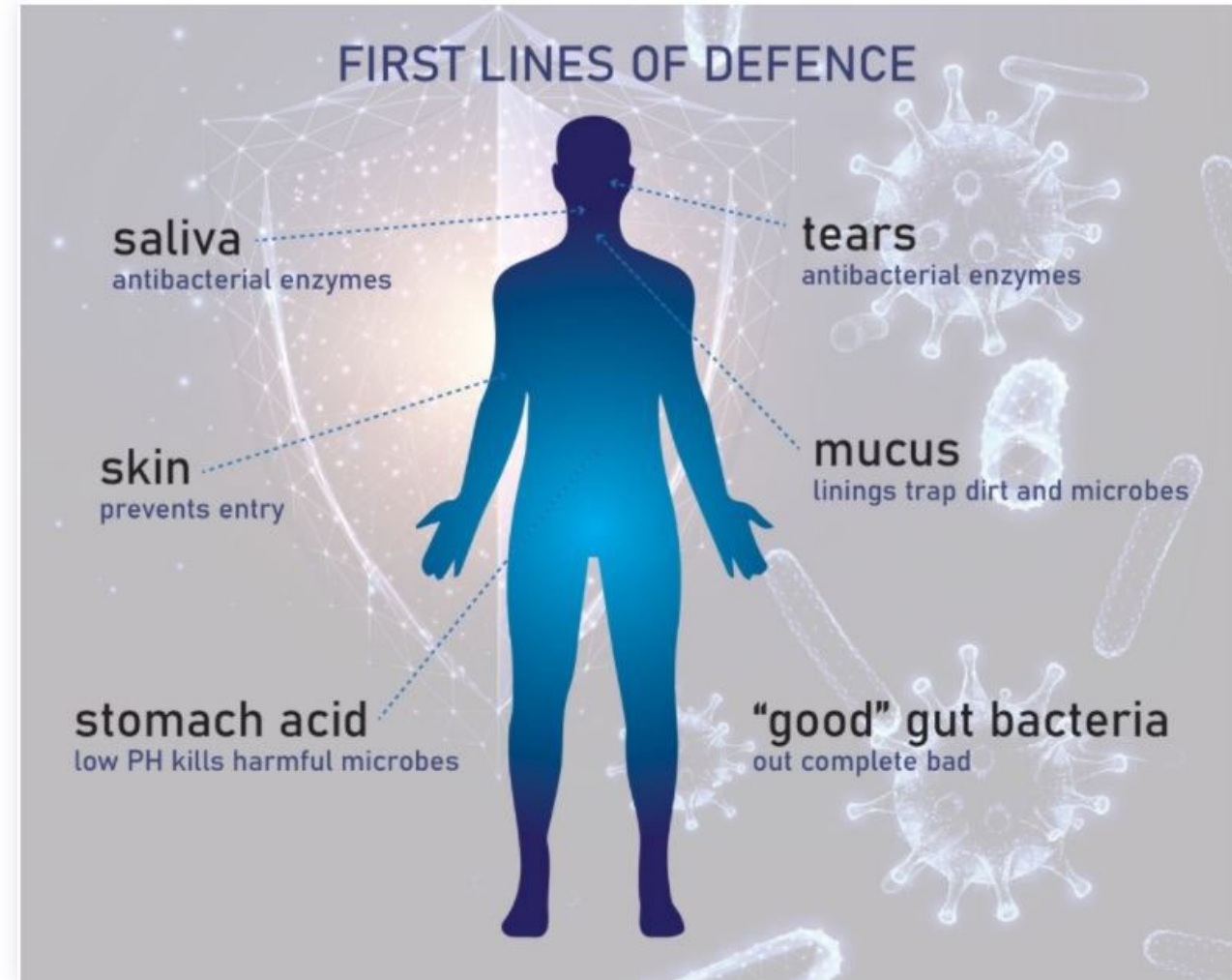
Changes in gut microbiota can influence neurotransmitter production and signaling, potentially impacting mental health.



# Immune System Inflammation

## Our largest immune system is in our guts

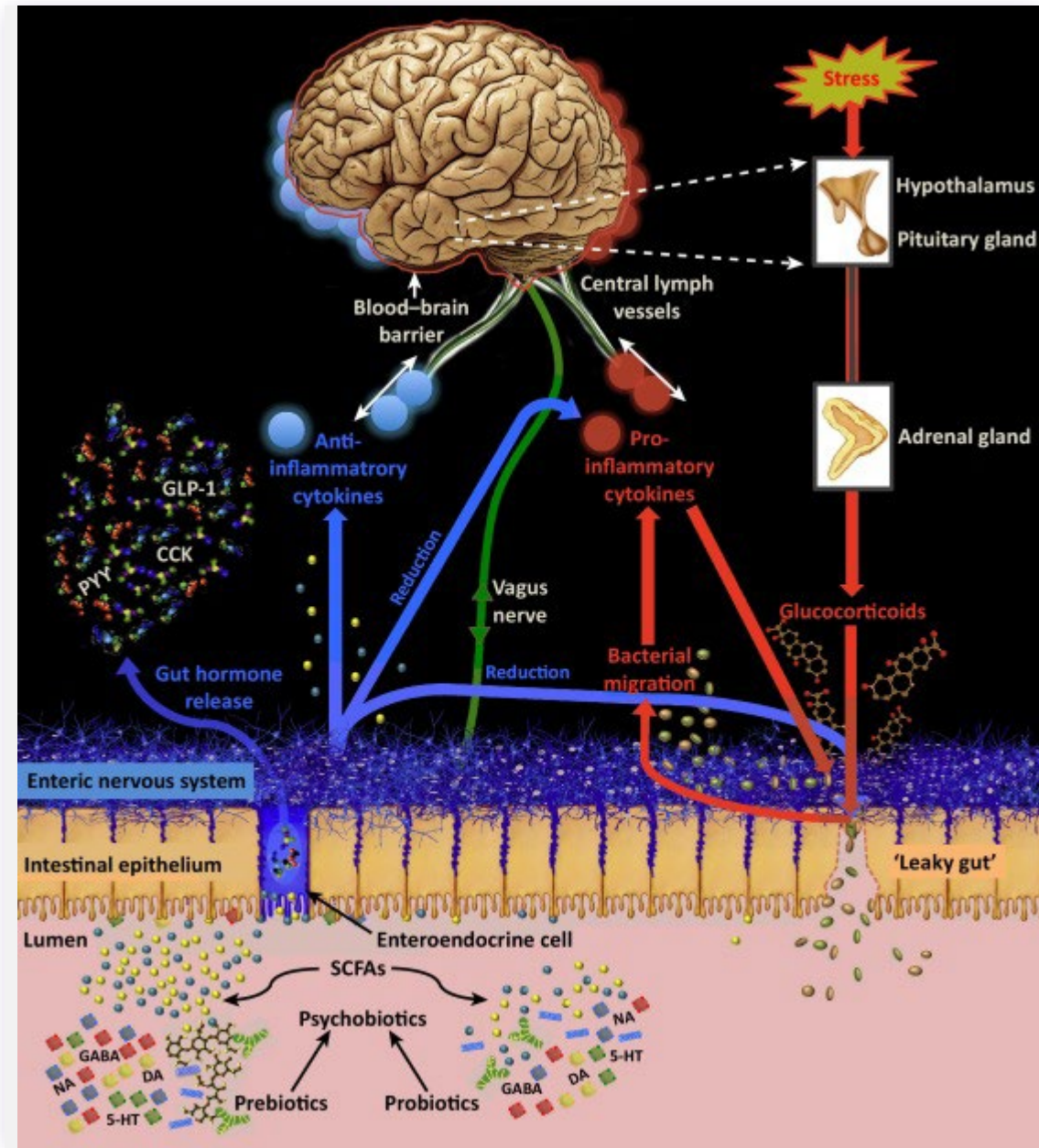
- ❑ Gut microbiome controls inflammation
- ❑ Imbalances in gut bacteria can lead to chronic low-grade inflammation
- ❑ Inflammation has been associated with various mental health disorders, including depression and anxiety



# Enteric Nervous System Enteric Immune Systems

## What are they?

Gut microbiome works with enteric nervous system and enteric immune system to maintain health



# Offending factors for gut microbiome



## Antibiotics



## Diet

processed foods, added sugars, unhealthy fats, and low in fiber can negatively affect the gut microbiome. Such a diet can promote the growth of less beneficial bacteria and reduce the diversity of beneficial bacteria in the gut.



## Infection and Illness



## Stress

activates the hypothalamic-pituitary-adrenal (HPA) axis, which can impact the gut microbiota composition and disrupt the gut-brain axis communication.



## Environmental Factors

exposure to environmental toxins, pollutants, and certain chemicals can potentially disrupt the gut microbiome.

THE GASTROINTESTINAL TRACT  
**OUR SECOND BRAIN**

**100 trillion**

microorganisms live in your intestines and communicate with the brain



in a **healthy gut**, the “bad” bacteria *struggle* to flourish



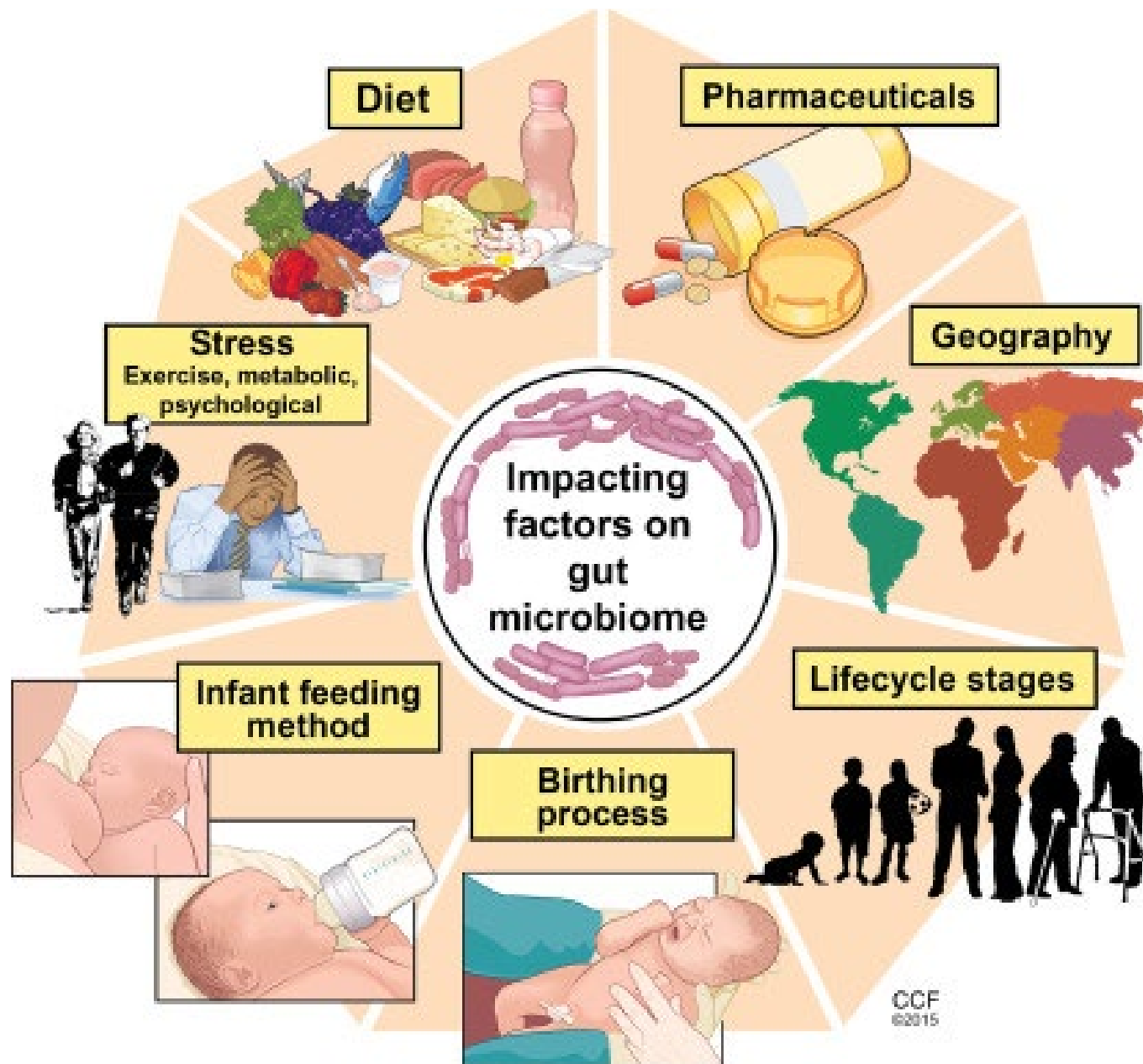
**70%** of the body's immune system

can be found in the digestive tract



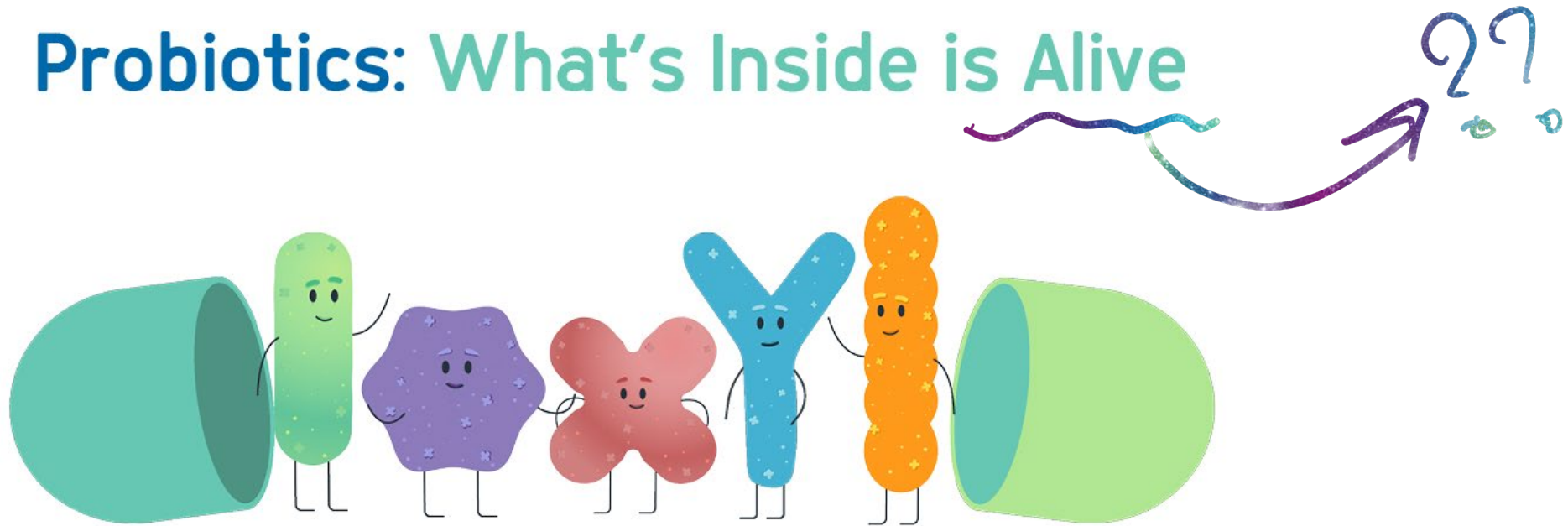
the gut processes food and produces **vitamins, enzymes, fatty acids and more**

*Research foods that promote good gut health and incorporate them into your diet!*



# Sources for probiotics ?

## Probiotics: What's Inside is Alive





# PROBIOTICS



KEFIR



MISO SOUP



KOMBUCHA



YOGURT



NATTO



APPLE CIDER VINEGAR



PICKLES

RAW CHEESE



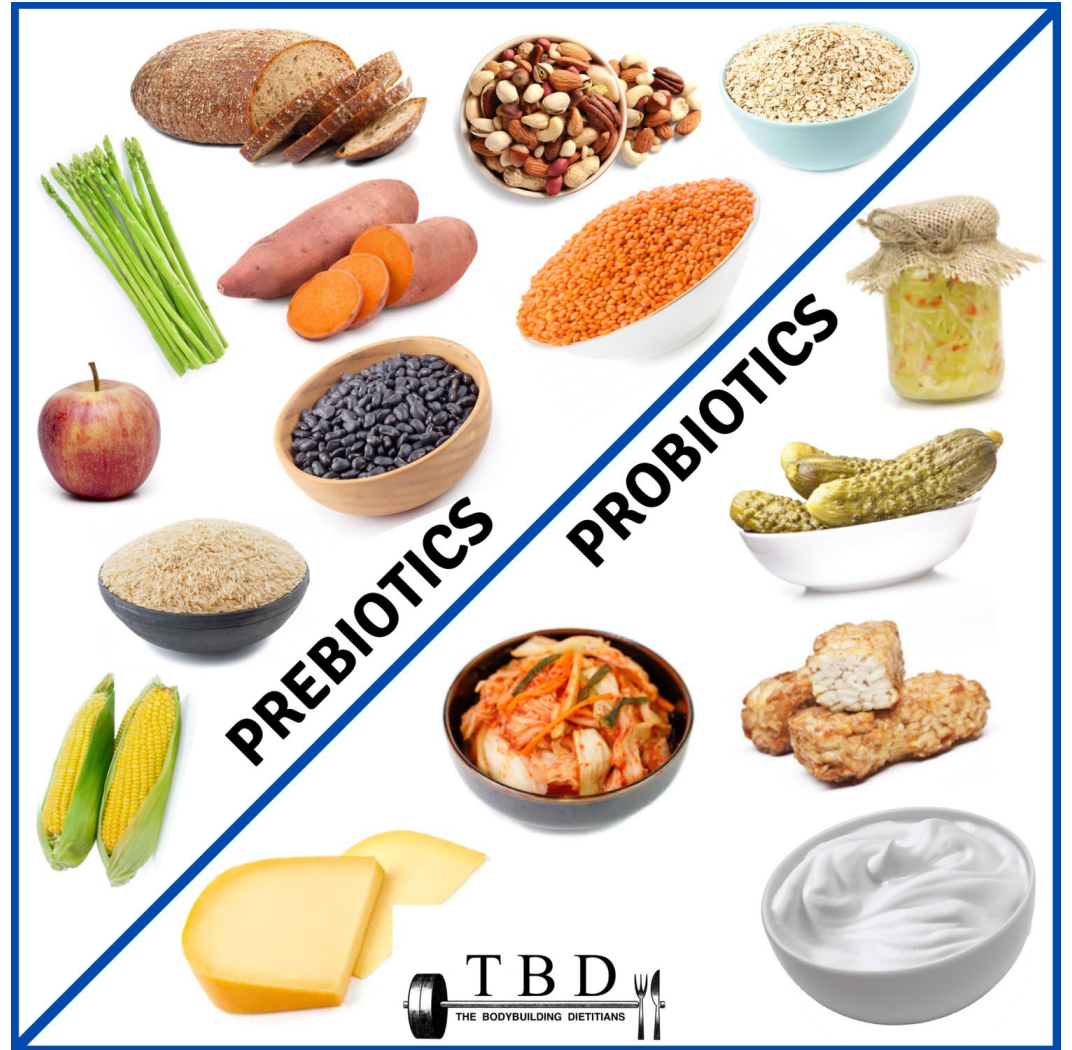
KVAS



KIMCHI



SAUERKRAUT



- ❑ Gut- Brain axis is bidirectional
- ❑ Inflammation starting in the gut, affects all systems and organs
- ❑ There is a link between gut microbiome/inflammation and some mental health conditions
- ❑ Integrity of gut microbiome is essential to prevent inflammation and protect our brains
- ❑ Food can be a good source to provide needed microbiome



# Studies on Gut Microbiota

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1. "The Gut Microbiota and Mental Health: From Correlation to Causation" - This review article published in Journal of Clinical Psychopharmacology discusses the relationship between gut microbiota and mental health disorders like depression and anxiety.
2. "Gut-Brain Axis: Role of Gut Microbiota in Mental Health and Substance Use Disorders" - Published in CNS Spectrums, this review highlights the influence of gut microbiota on mental health and substance use disorders.
3. "The Impact of Gut Microbiota on Brain and Behavior: Implications for Psychiatry" - This article published in the Journal of Clinical Psychiatry examines the bidirectional communication between the gut microbiota and the brain, emphasizing its relevance to psychiatric disorders.
4. "Dysbiosis of Gut Microbiota and Their Impact on Epigenetics in Depression" - Published in the Journal of Clinical Medicine, this study investigates the association between gut dysbiosis, epigenetic modifications, and depression.
5. "The Intestinal Microbiota in Chronic Fatigue Syndrome: A Systematic Review and Meta-Analysis" - This systematic review, published in Microorganisms, explores the potential role of gut microbiota in chronic fatigue syndrome (CFS) and its associated symptoms.

# Studies on Immune System and Inflammation

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1. Inflammatory markers: Chronic inflammation is often associated with increased levels of pro-inflammatory cytokines, such as interleukin-6 (IL-6) and tumor necrosis factor-alpha (TNF-alpha). These markers are involved in the body's immune response and can impact neurotransmitter function and neural circuits involved in mood regulation.
2. Impact on neurotransmitters: Inflammation can affect the balance of neurotransmitters in the brain, including serotonin, dopamine, and norepinephrine. These neurotransmitters play a critical role in regulating mood, emotions, and motivation. Imbalances in these neurotransmitters have been associated with symptoms of anxiety and depression.
3. Disruption of brain structure and function: Chronic inflammation can lead to structural and functional changes in brain regions involved in emotional processing and regulation, such as the prefrontal cortex and amygdala. These changes may contribute to the development and maintenance of anxiety and depression symptoms.
4. Activation of stress response: Inflammatory signals can activate the body's stress response system, including the hypothalamic-pituitary-adrenal (HPA) axis. This activation can lead to increased cortisol production, which, when dysregulated, may contribute to anxiety and depression.