

# Dr. Seth Gilson

The Mindful Doctor

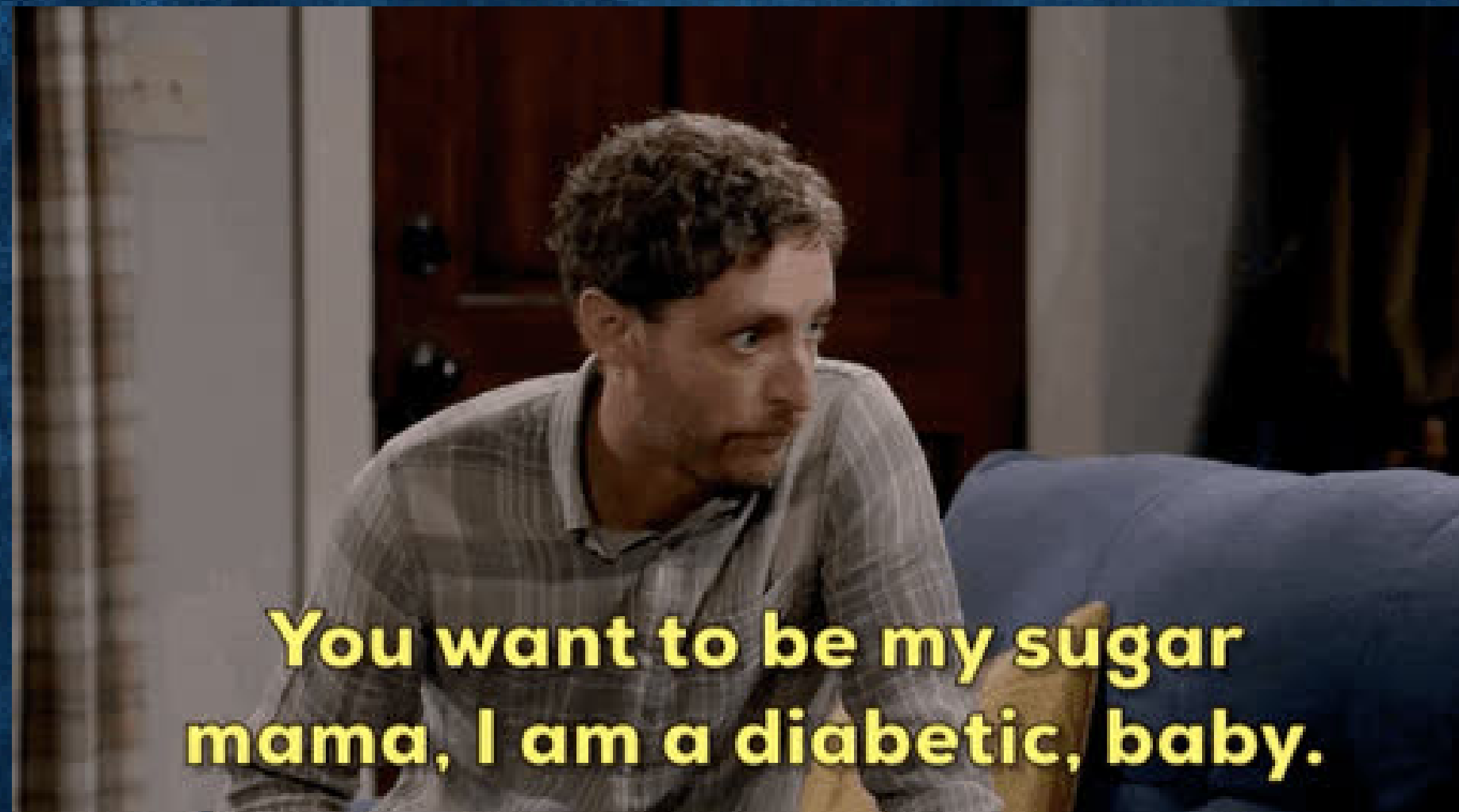
A photograph of two men in a dental office. The man on the left is wearing a black scrub top with 'Seth Gilson, D.M.D.' embroidered on it. The man on the right is also in a black scrub top with 'Seth Gilson, D.M.D.' visible. They are both smiling and have their arms crossed. The background shows dental equipment, including a monitor displaying a dental X-ray and a patient chair. A large, bold, white 'HELLO!' is superimposed over the center of the image.

# ***HELLO!***

**Dr. Seth Gilson**  
**Biological, Holistic Dentist**

# ORAL & GUT MICROBIOMES

The Secret to Improving Overall Health

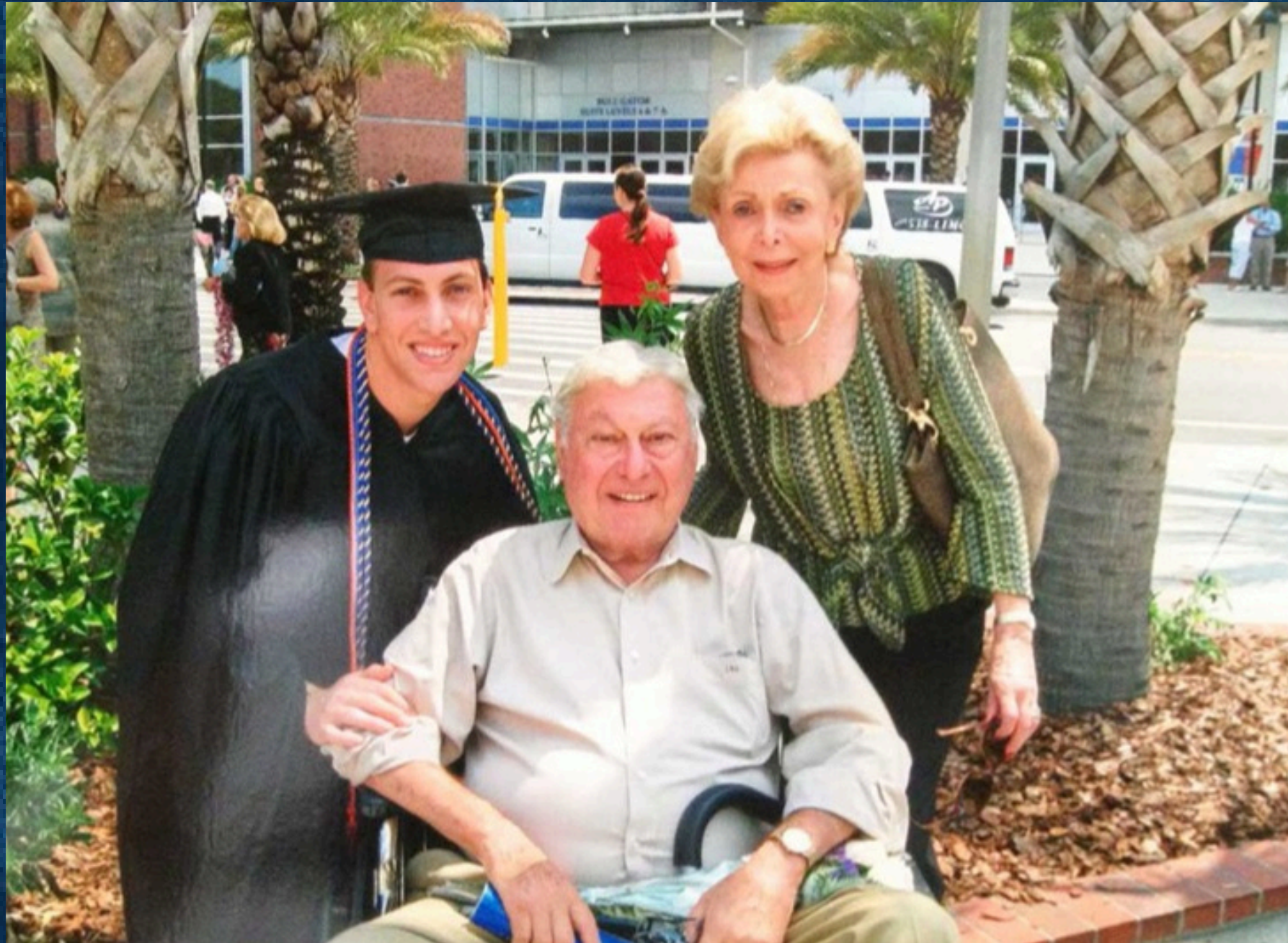








# My Personal Inspiration





**You're here, why?**





# WHAT IS THE MICROBIOME?

The bacteria, fungi, viruses, and other microscopic organisms that live inside and on your body are what's called the **MICROBIOTA**

The DNA of these “bugs” are what's known as the **MICROBIOME**



# WHAT IS THE GUT?

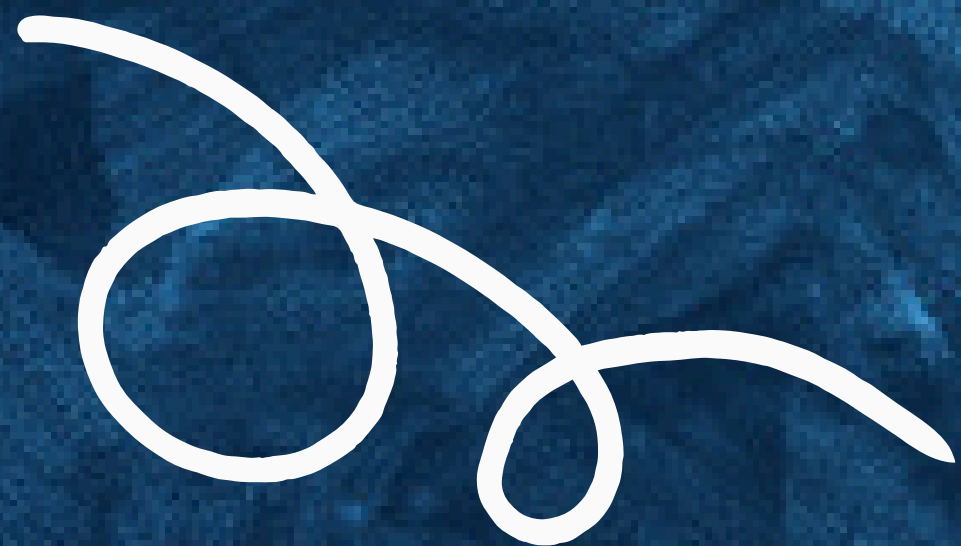
The gut is technically the entire digestive tract, from mouth to anus.







# **INTERESTING FACTS ABOUT THE GUT AND THE BUGS WHO LIVE THERE...**





**WE HAVE  
TASTE  
RECEPTORS  
ALL ALONG  
OUR  
DIGESTIVE  
TRACT**



**THERE ARE  
ON AVERAGE  
MORE THAN  
6 LBS OF  
MICROBIOTA  
IN THE GUT**



**THE BUGS IN  
OUR GUT  
IMPACT  
DIGESTION,  
IMMUNE  
FUNCTION,  
HORMONAL  
SYSTEMS,  
MENTAL STATE  
AND BRAIN  
FUNCTION**





**75% OF THE  
IMMUNE  
SYSTEM IS  
WITHIN THE GUT  
AND SPECIFIC  
IMMUNE CELLS  
ARE  
CONSTANTLY  
SAMPLING THE  
ENVIRONMENT  
WITHIN THE GUT**

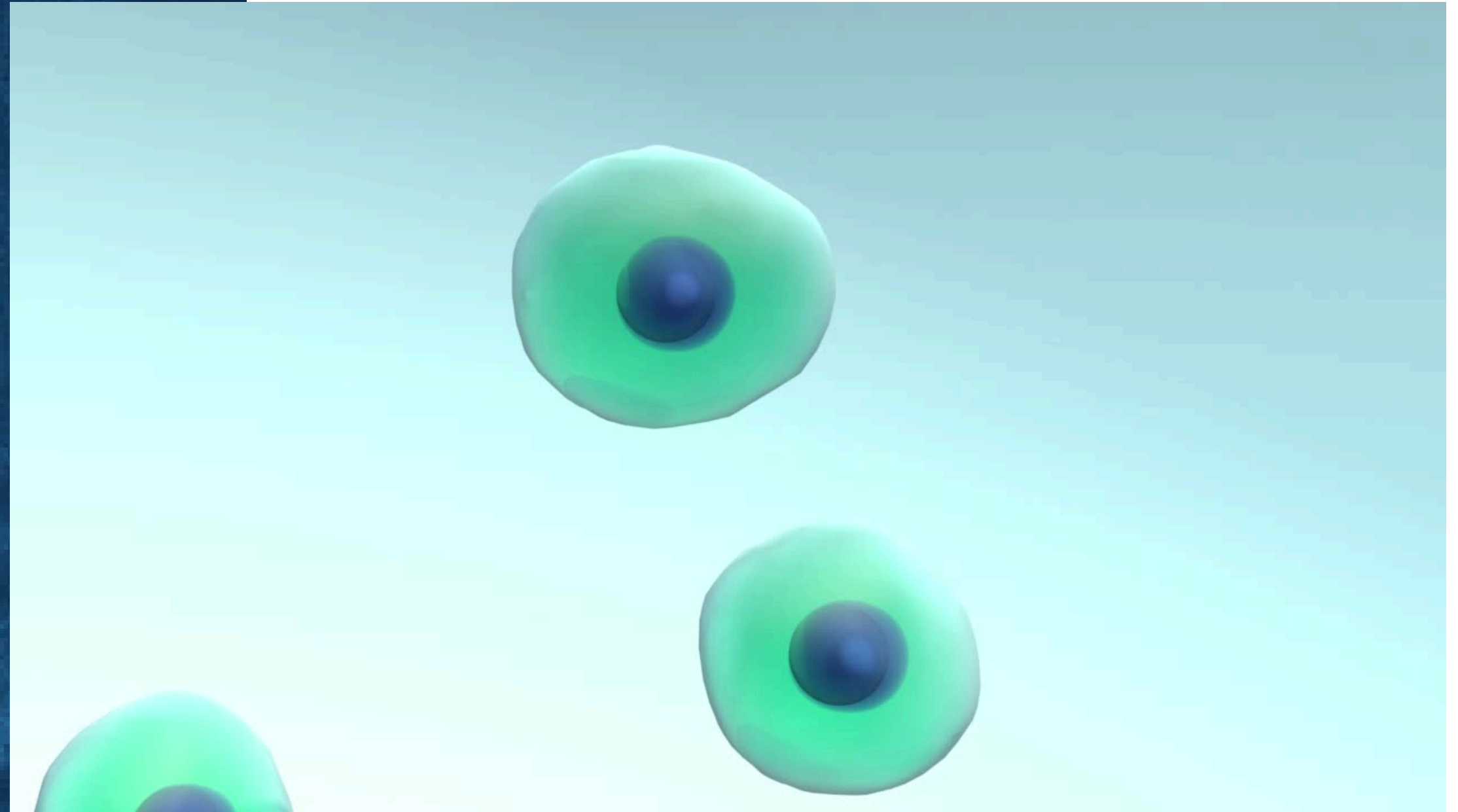




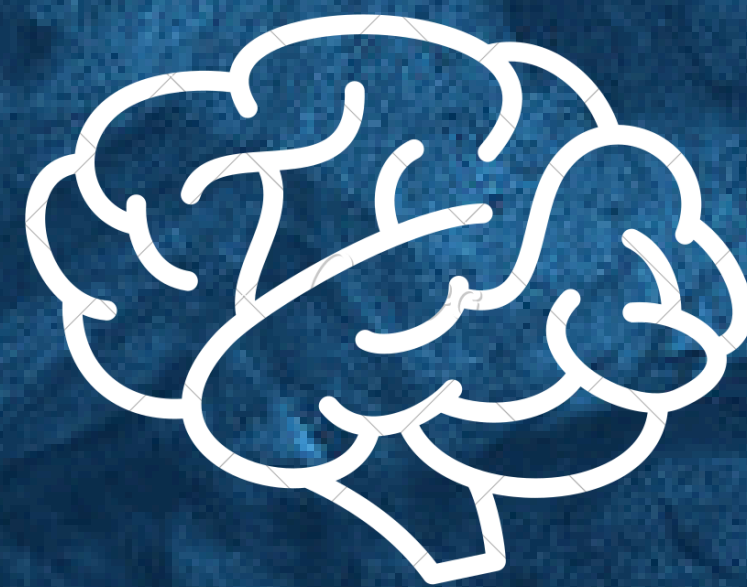
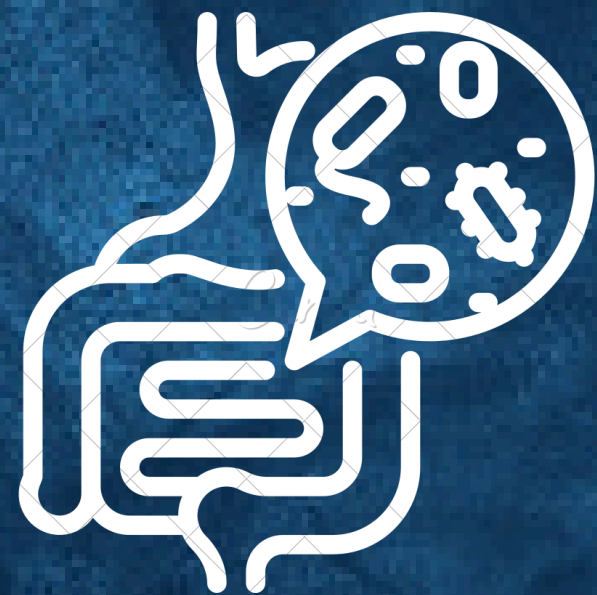
**DIFFERENT  
MICROBIOTA  
ARE  
INTRODUCED  
VIA FOOD &  
WATER,  
KISSING,  
BREATHING &  
SKIN  
CONTACT**



**WE ARE  
MADE UP OF  
AT LEAST AS  
MANY  
MICROBIAL  
CELLS AS  
HUMAN  
CELLS**



# GUT-BRAIN AFFAIR





**“ALL DISEASE BEGINS  
IN THE GUT”**

*Canva*

A top-down view of various fresh berries arranged on a wooden surface. In the upper right, a wooden bowl is filled with bright red raspberries. To its left, a wooden spoon holds three blueberries, with several more scattered on the wooden board. In the lower left, a large wooden bowl is brimming with blueberries. In the lower right, another wooden bowl contains green gooseberries and a small cluster of red currants. To the right of the raspberries, two more wooden spoons are shown: one with three raspberries and another with two green gooseberries. A single blackberry sits on the board near the bottom right. Several dried rosehips are scattered around the berries. The entire scene is set against a light-colored, textured background.

**“LET FOOD BE THY MEDICINE  
AND MEDICINE BE THY FOOD.”**

**GUT-BRAIN AFFAIR**

# **THE ENTERIC NERVOUS SYSTEM**

**GUT-BRAIN AFFAIR**

# **THE ENTERIC NERVOUS SYSTEM**

**“THE SECOND BRAIN”**



**GUT-BRAIN AFFAIR**

**THE ENTERIC NERVOUS SYSTEM**

**“THE SECOND BRAIN”**

**TWO-WAY HIGHWAY**

**GUT-BRAIN AFFAIR**

**THE ENTERIC NERVOUS SYSTEM**

**“THE SECOND BRAIN”**

**TWO-WAY HIGHWAY**

**THE VAGUS NERVE**

# 3 KEYS TO OVERCOMING ANYTHING

Awareness

Educate/Experience

Implement &  
take action

# WHAT'S A "NORMAL" MICROBIOME?

Everybody has a unique  
microbiome, our own  
homeostasis

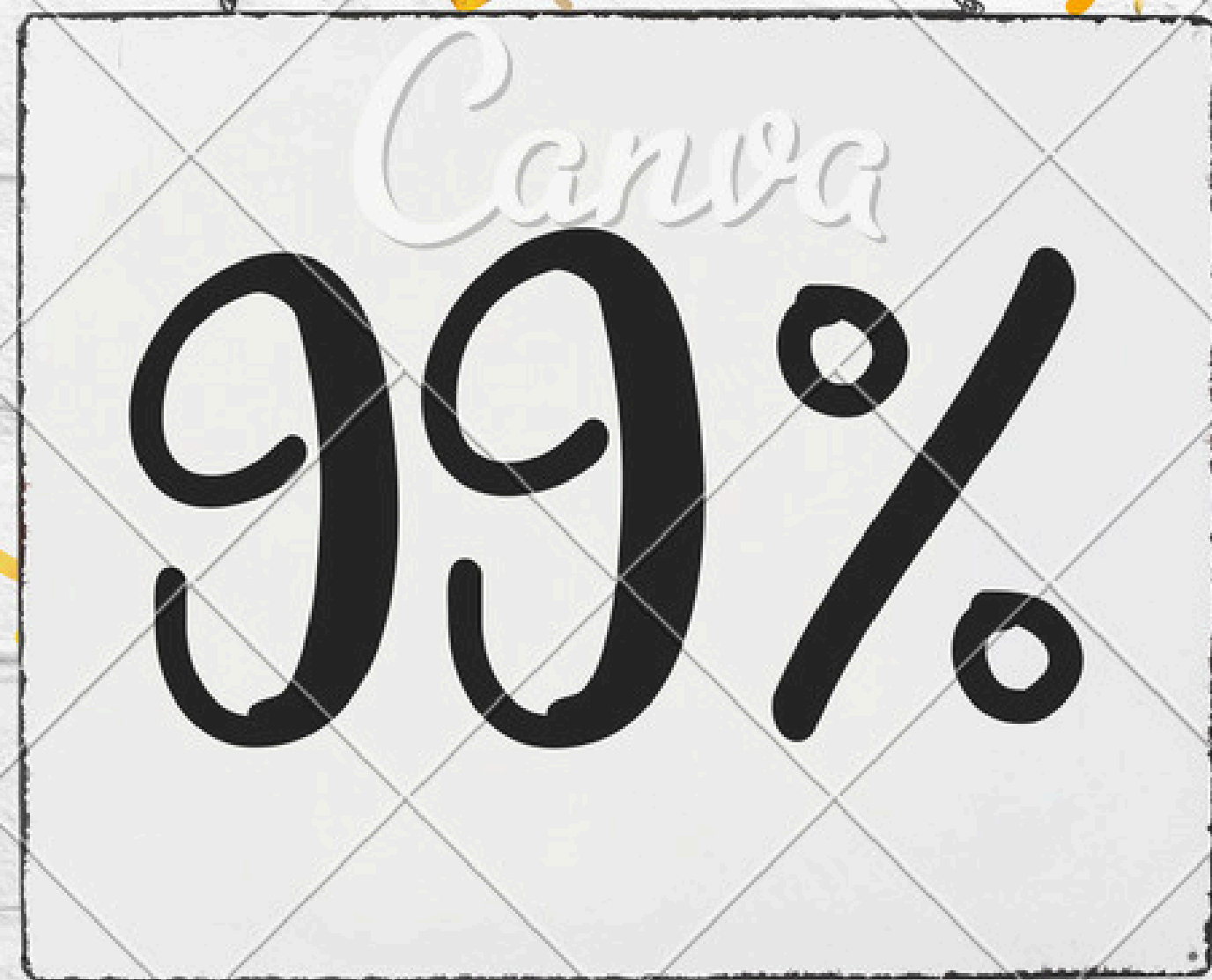




# WHAT IS DYSBIOSIS?

Imbalance of the microbiome, a detrimental change in the microbiota somewhere or in multiple areas of the gut





**“GOOD”  
BUGS  
VS  
“BAD”  
BUGS**



# OUR MICROSCOPIC ARMY OF FRIENDLY SOLDIERS

The beneficial microbes protect us from pathogens, make vitamins, regulate the immune response and can even promote weight loss



Antibiotic

Tablets  
25 x 250mg

Antibiotic

25 Tablets  
250 mg

Antibiotic

Antibiotic  
Tablets

Antibiotic  
Tablets



# BITTER SWEET RELATIONSHIP

- One of the greatest advancements in modern medicine
- One of the greatest threats to the microbiome



# NUKE' EM!

- Microbes grow back rapidly after taking antibiotics, but it doesn't appear the microbiome ever recovers to its original stable state
- Overuse can lead to resistant bacteria, "super-bugs"



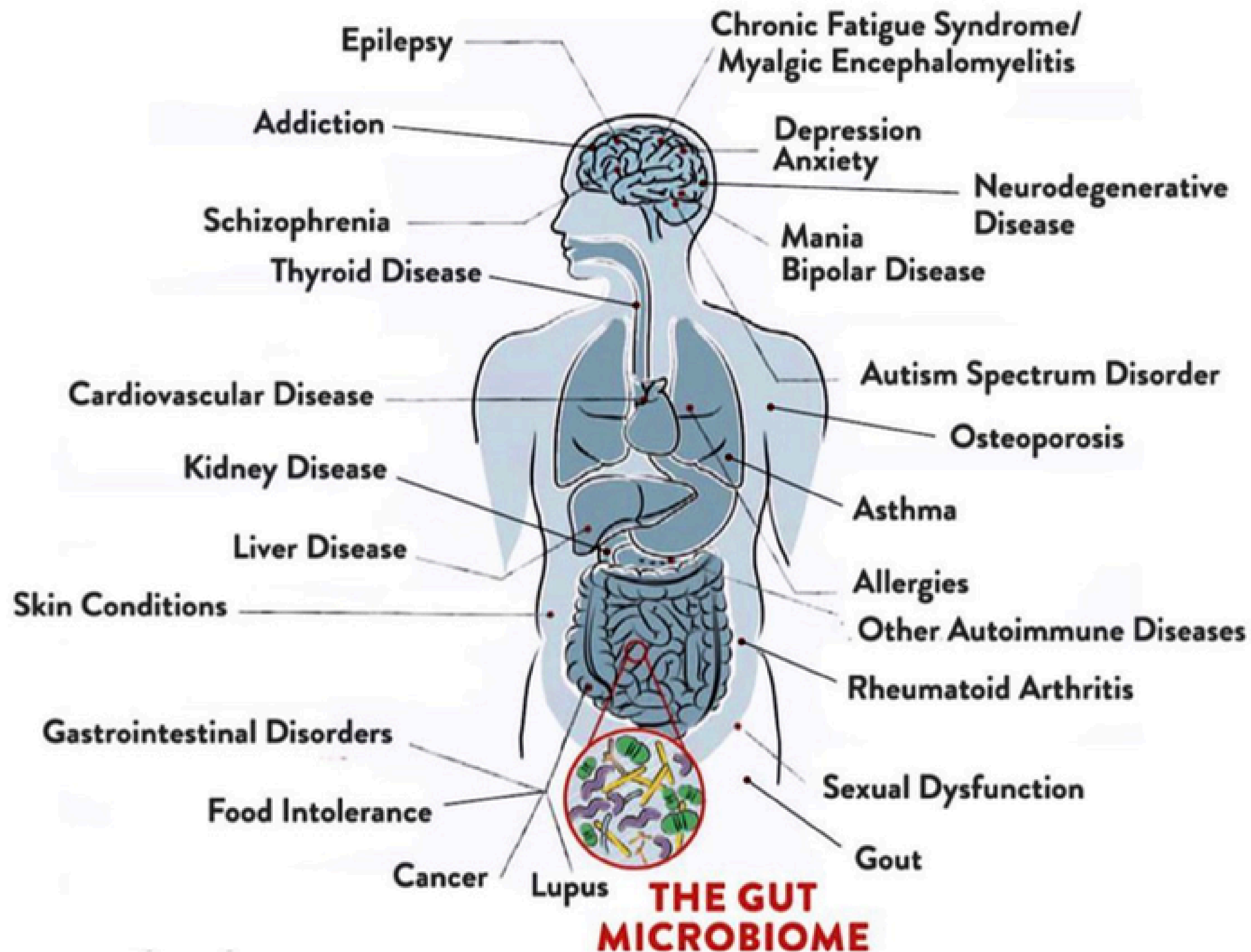
# THE LINKS BETWEEN THE GUT MICROBIOME AND SYSTEMIC HEALTH



**THE GOOD  
BUGS ARE THE  
#1 DEFENSE  
AGAINST  
INFECTION &  
DYSBIOSIS**







**COMMON THEME**  
**=**  
**INFLAMMATION**

**DISORDERS WHICH HAVE  
BEEN ASSOCIATED WITH  
AN ALTERED MICROBIOME**

**DISORDERS  
WHICH HAVE  
BEEN  
ASSOCIATED  
WITH AN  
ALTERED  
MICROBIOME**

Depression





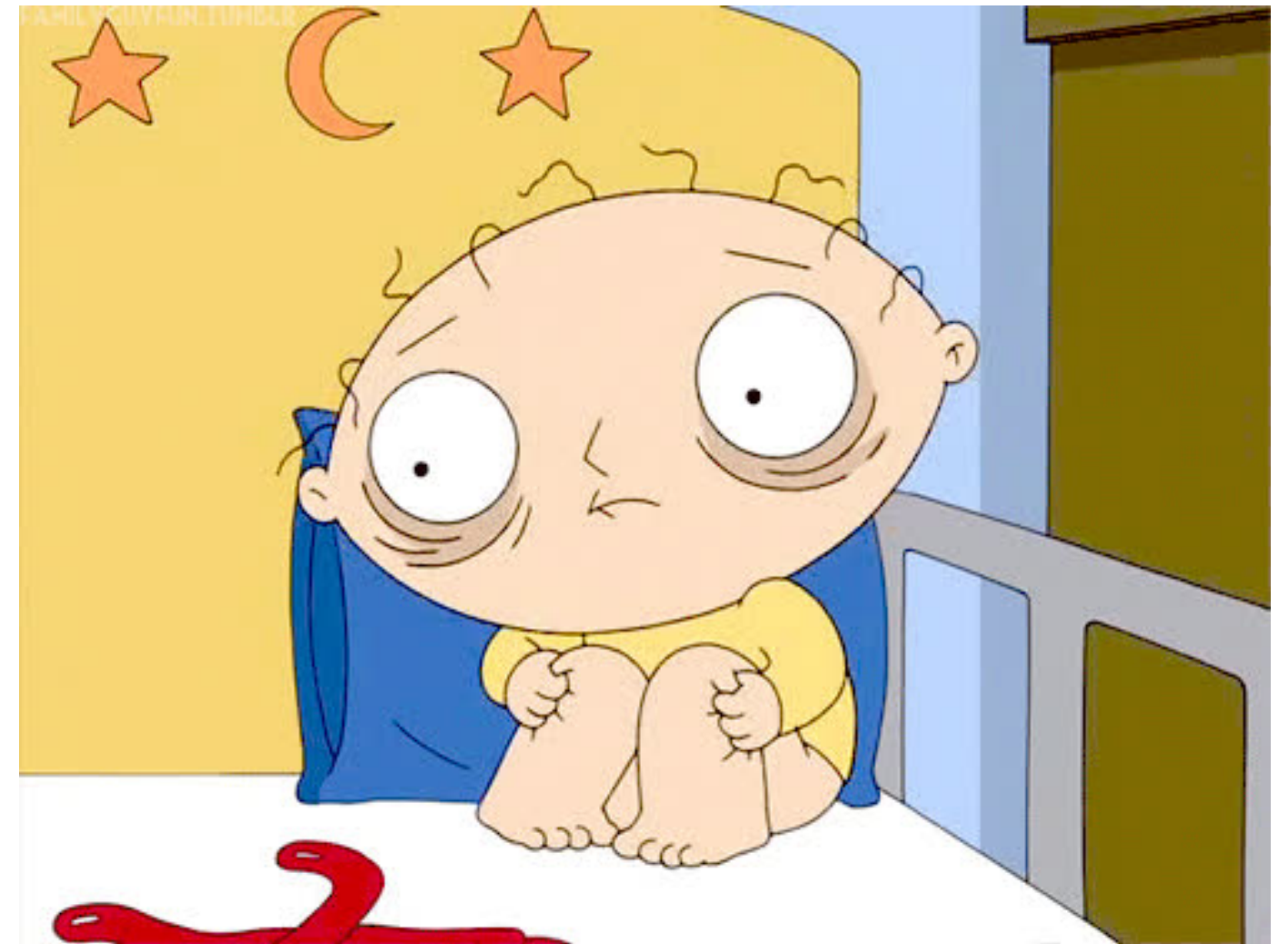
**DISORDERS  
WHICH HAVE  
BEEN  
ASSOCIATED  
WITH AN  
ALTERED  
MICROBIOME**

Anxiety



**DISORDERS  
WHICH HAVE  
BEEN  
ASSOCIATED  
WITH AN  
ALTERED  
MICROBIOME**

**PTSD**



**DISORDERS  
WHICH HAVE  
BEEN  
ASSOCIATED  
WITH AN  
ALTERED  
MICROBIOME**

**ADHD**



# DISORDERS WHICH HAVE BEEN ASSOCIATED WITH AN ALTERED MICROBIOME

## Dementia





**DISORDERS  
WHICH HAVE  
BEEN  
ASSOCIATED  
WITH AN  
ALTERED  
MICROBIOME**

OCD



**DISORDERS  
WHICH HAVE  
BEEN  
ASSOCIATED  
WITH AN  
ALTERED  
MICROBIOME**

Insomnia



**DISORDERS  
WHICH HAVE  
BEEN  
ASSOCIATED  
WITH AN  
ALTERED  
MICROBIOME**

Decreased Libido



**DISORDERS  
WHICH HAVE  
BEEN  
ASSOCIATED  
WITH AN  
ALTERED  
MICROBIOME**

## Schizophrenia



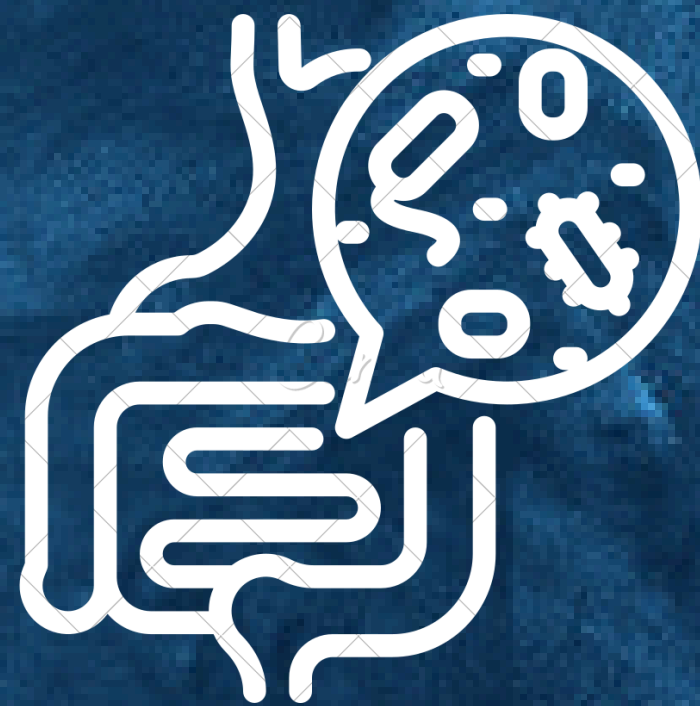


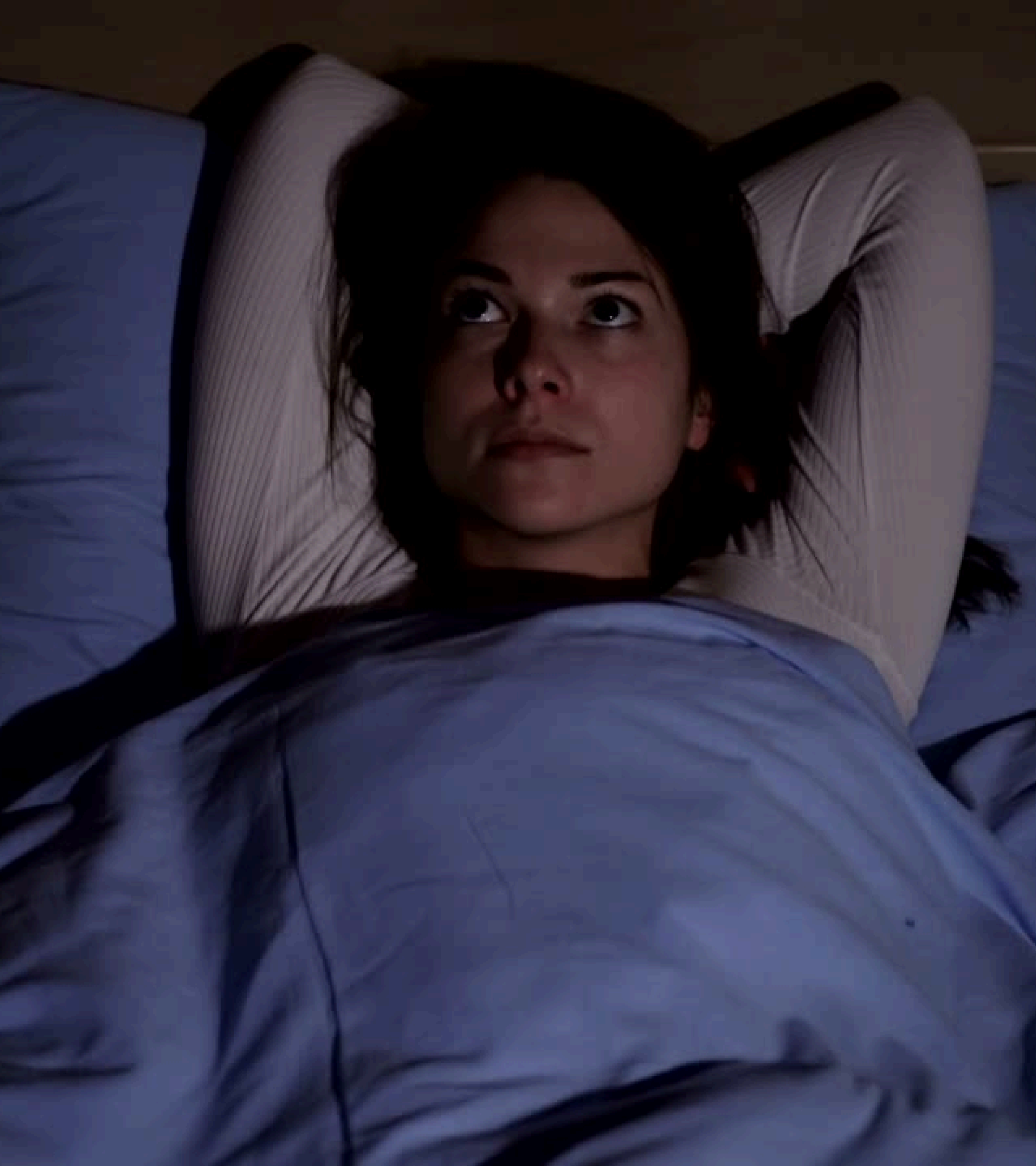
**DISORDERS  
WHICH HAVE  
BEEN  
ASSOCIATED  
WITH AN  
ALTERED  
MICROBIOME**

## Bipolar Disorder



# 8 HABITS DESTROYING YOUR GUT HEALTH





01

# NOT GETTING ENOUGH SLEEP



02

# TOO MUCH STRESS



03

# NOT EATING A DIVERSE RANGE OF FOODS



04

# LACK OF PROBIOTICS IN THE DIET



05

# LACK OF REGULAR PHYSICAL ACTIVITY



06

# DRINKING TOO MUCH ALCOHOL



07

# CIGARETTE SMOKING



08

# ANTIBIOTIC USE



# ORAL HEALTH & THE MICROBIOME



# THE MOUTH



**THE ORAL AND  
LOWER GUT  
MICROBIOMES  
ARE  
INEXTRICABLY  
LINKED, THE  
MOUTH IS THE  
FIRST PART OF  
THE DIGESTIVE  
TRACT**

A close-up photograph of a person's mouth, showing the tongue and throat area. The image is overlaid with a white diamond-shaped grid pattern. The word "Canva" is written in a light, cursive font across the lower part of the image.

Canva

**Each mL of saliva contains roughly 140 million bacterial cells, think about each time you swallow the impact this has on the rest of the gut**





# THE MOUTH CAVITIES





*Candy*

**MICROBIAL & PH CHANGES**



**NUTRITIONAL DEFICIENCY**

# MAIN ROLE OF MINERALS IN YOUR BODY

**Zinc**  
Immunity

**Iodine**  
Thyroid

**Boron**  
Brain

**Phosphorus**  
Bones

**Sulfur**  
Detox

**Magnesium**  
Stress

**Manganese**  
Antioxidant  
defense

**Chloride**  
Digestion

**Iron**  
Oxygenation

**Chromium**  
Blood sugar

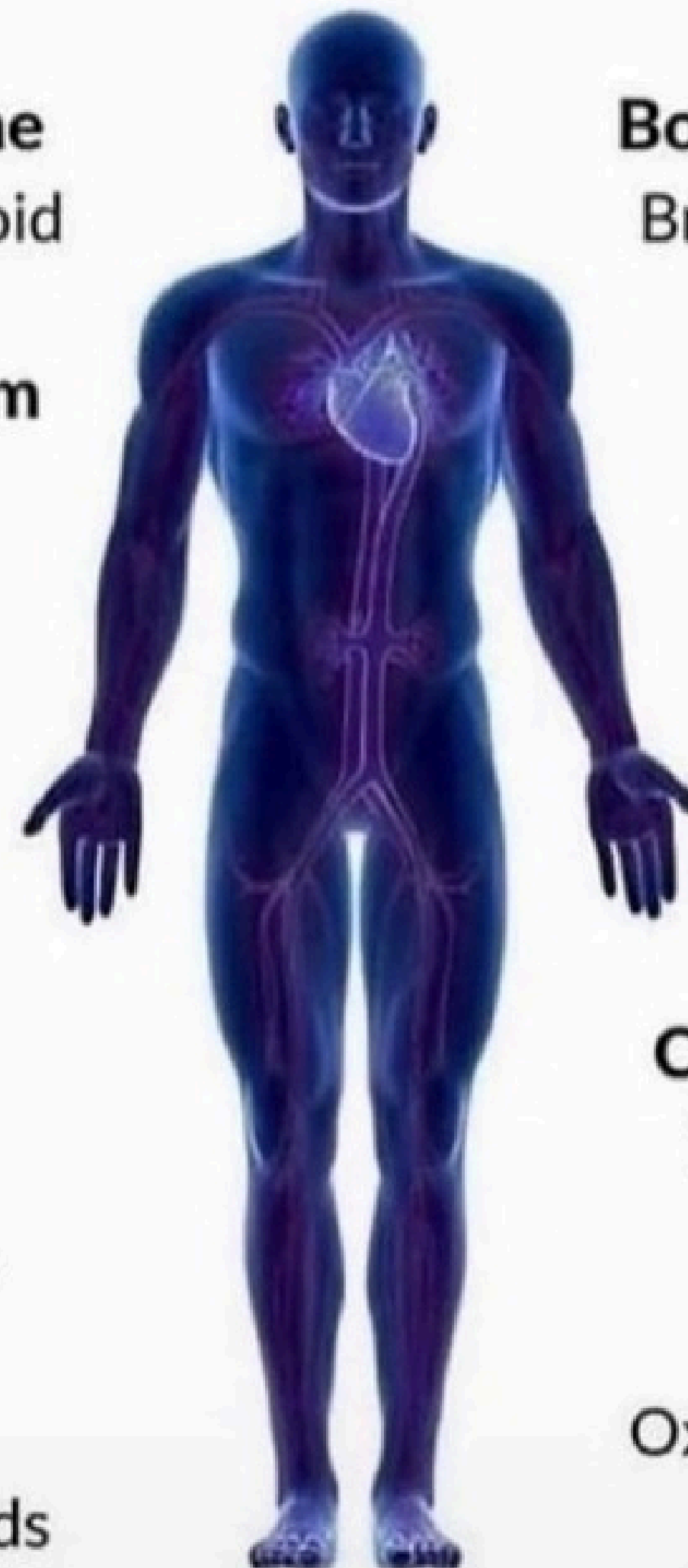
**Potassium**  
Blood pressure

**Calcium**  
Bones

**Sodium**  
Electrolyte  
balance

**Copper**  
Regulate lipids

**Selenium**  
Oxidative stress  
protection







**HYDRATION**



**MOUTH BREATHING**



**DRY MOUTH**



Canva

**TEETH GRINDING**



autoimmune

DISORDERS

**AUTOIMMUNE DISORDERS**





**HYGIENE**

**THE MOUTH**

**GINGIVITIS VS  
PERIODONTAL  
DISEASE**



# PERIODONTAL DISEASE



# RESULTS FROM ORAL DYSBIOSIS

**Disruption to the microbiome.**

**An imbalance in the microbiota**

**Changes in their functional  
composition and metabolic activities**

**Or a shift in their local distribution**



**NOT AN  
INFECTIOUS  
DISEASE, BUT CAN  
PASS THE  
MICROBES TO  
OTHERS**



**Illness due to a pathogen or its toxic byproducts, which arises through transmission from an infected person, animal or contaminated inanimate object to a susceptible host.**

**SO, WHAT CAUSES THE SHIFT  
FROM A HEALTHY STATE TO A  
DISEASED STATE?**



**01. LOCAL FACTORS**

**02. SYSTEMIC FACTORS**

# 01. LOCAL FACTORS

## PLAQUE ACCUMULATION AND MATURATION







# Indigenous Tribes



## **02. SYSTEMIC FACTORS**

### **MODIFY & DECREASE HOST'S PROTECTIVE RESPONSE**

- **Nutrition**
- **Physiology**

**"AUTOIMMUNE – LIKE"**

**“INFECTIONS OF THE TEETH  
AND GUMS CAUSE, DIRECTLY  
OR INDIRECTLY, ONE HALF OF  
THE FATAL DISEASES”**

– Joseph Head MD, DDS

**NOW, WE KNOW PERIODONTITIS  
IS ASSOCIATED WITH AT LEAST**

**57**

**MEDICAL DISEASES  
AND DISABILITIES...**



**ALZHEIMER**

**CANCER**

**CEREBROVASCULAR**

**CARDIOVASCULAR**

**RESPIRATORY**

**DIABETES**

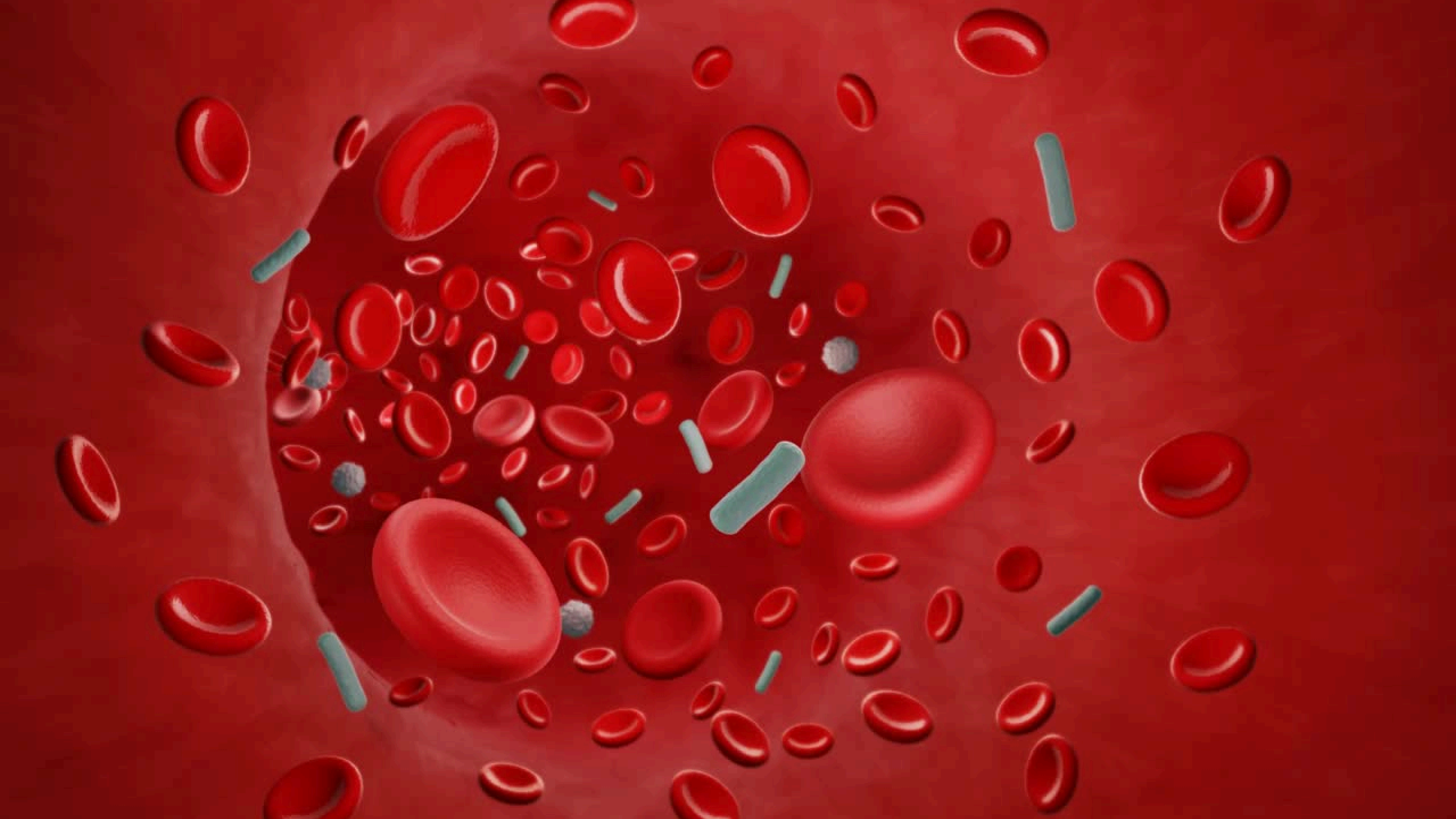
**ADVERSE PREGNANCY**

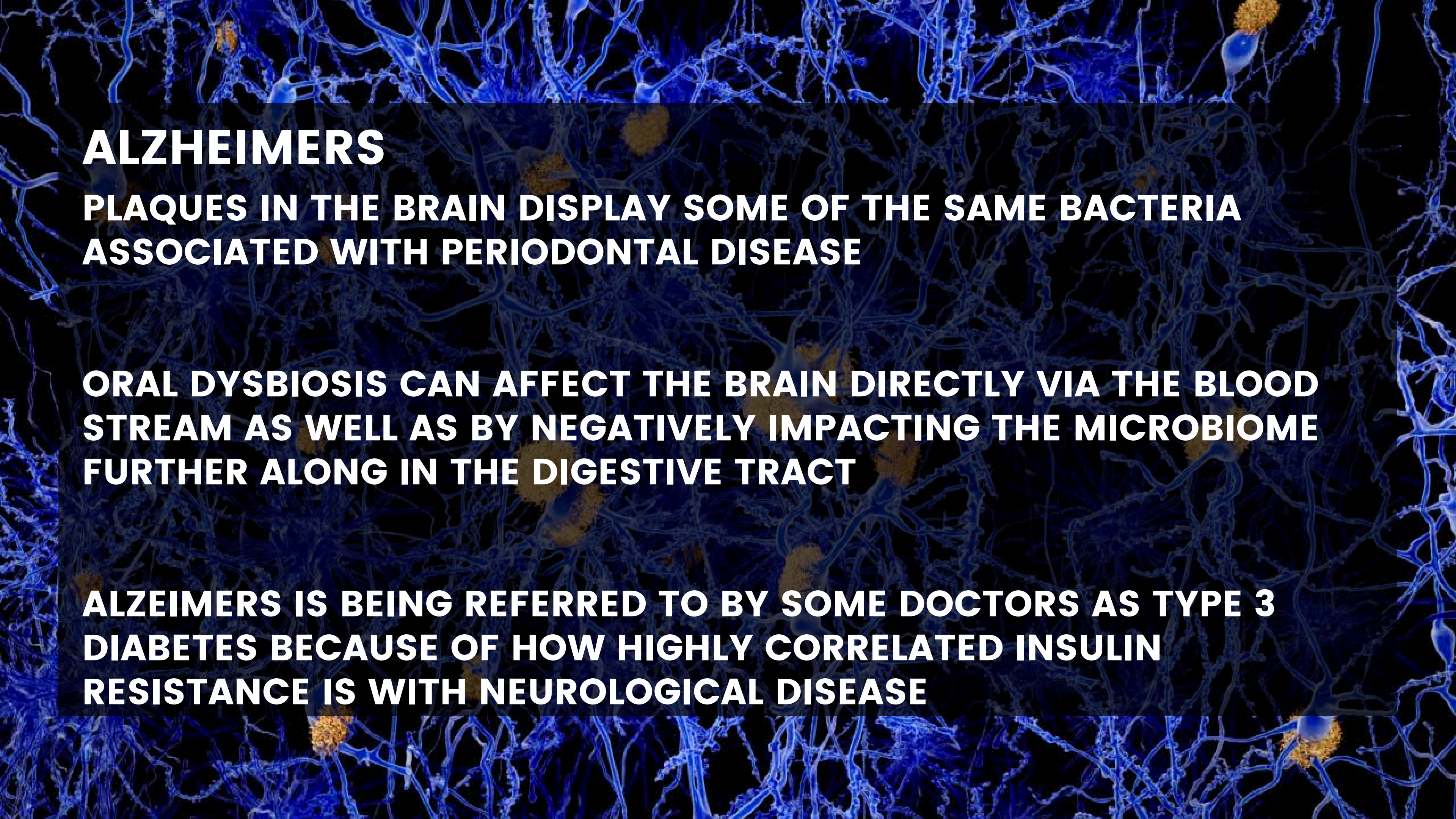
**LOW BIRTH WEIGHT**

**RHEUMATOID**

**ARTHRITIS**







# **ALZHEIMERS**

**PLAQUES IN THE BRAIN DISPLAY SOME OF THE SAME BACTERIA ASSOCIATED WITH PERIODONTAL DISEASE**

**ORAL DYSBIOSIS CAN AFFECT THE BRAIN DIRECTLY VIA THE BLOOD STREAM AS WELL AS BY NEGATIVELY IMPACTING THE MICROBIOME FURTHER ALONG IN THE DIGESTIVE TRACT**

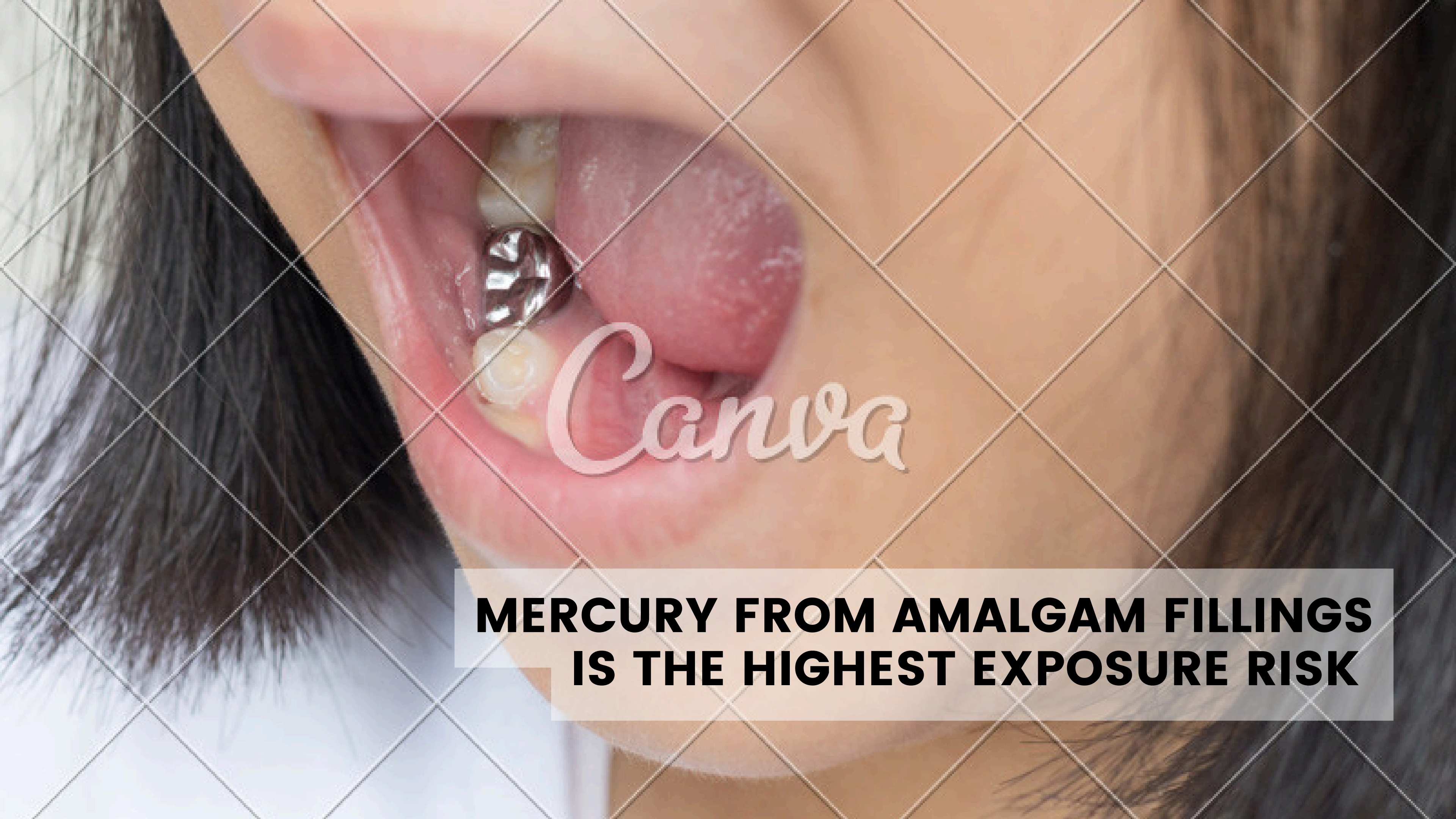
**ALZHEIMERS IS BEING REFERRED TO BY SOME DOCTORS AS TYPE 3 DIABETES BECAUSE OF HOW HIGHLY CORRELATED INSULIN RESISTANCE IS WITH NEUROLOGICAL DISEASE**



# DIABETES

**3X HIGHER RISK OF GUM DISEASE**

**MICROBIOME DYSBIOSIS IS A LARGE RISK FACTOR FOR DIABETES**



*Canva*

**MERCURY FROM AMALGAM FILLINGS  
IS THE HIGHEST EXPOSURE RISK**



# TOOTH MERIDIANS

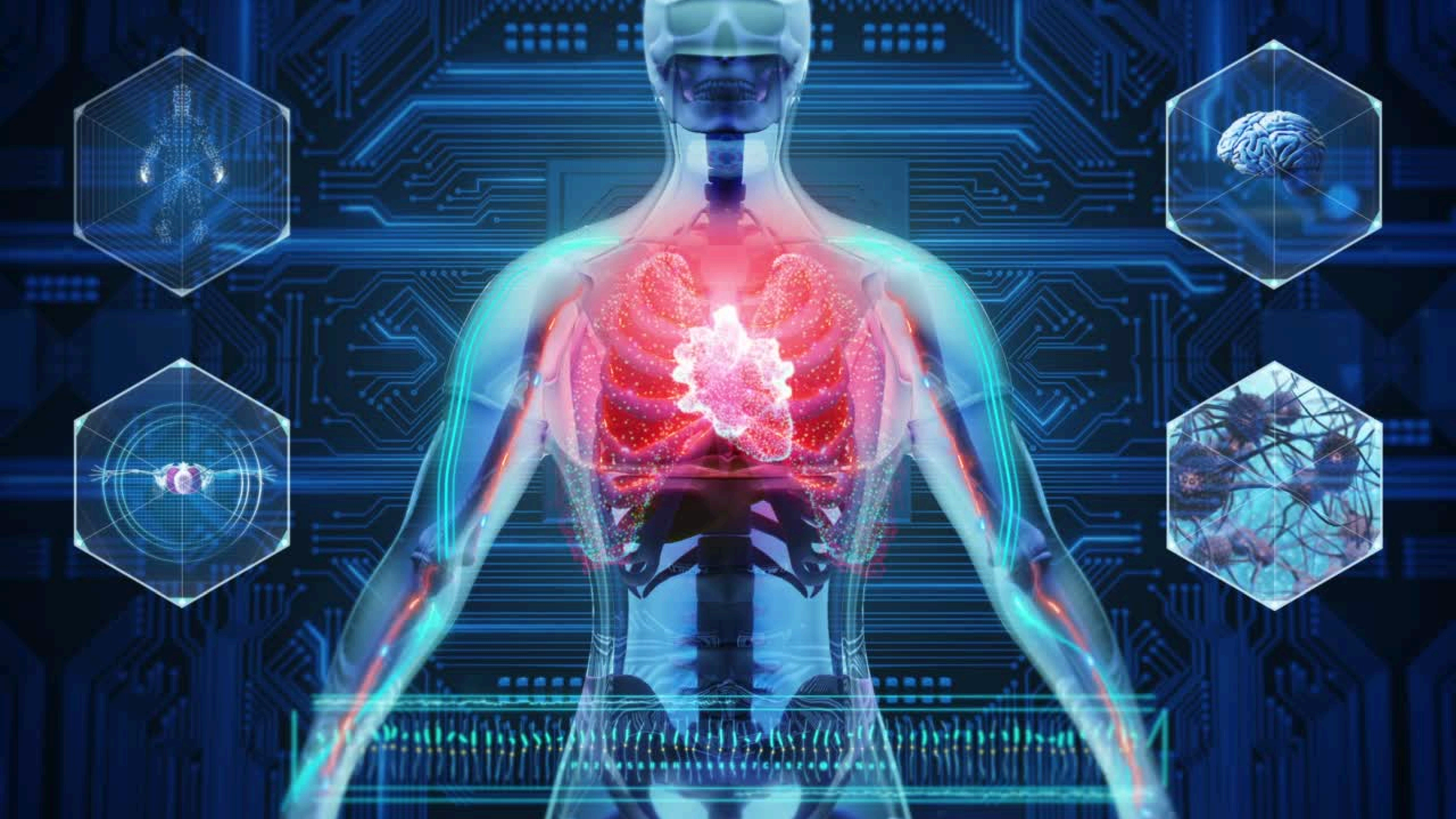












The background of the slide is a dark blue, textured surface featuring a pattern of interlocking gears. The gears are rendered in a slightly lighter shade of blue, creating a sense of depth and mechanical complexity. The overall effect is a high-tech, scientific aesthetic.

# **PUTTING IT TOGETHER...**

## **MICROBIOME BRAIN-GUT CONNECTION**

**WE'RE FULL OF BACTERIA AND  
OTHER MICROBES WHICH PLAY  
VITAL ROLES IN OUR HEALTH**



**THE ORAL AND LOWER GUT  
MICROBIOMES ARE INTIMATELY  
CONNECTED**

**PERIODONTAL DISEASE (ORAL  
DYSBIOSIS) AFFECTS SYSTEMIC  
HEALTH AND VISA VERSA**

# **MICROBIOTA INFLUENCE GUT–BRAIN CONNECTION VIA:**

- **Regulating neurotransmitter levels (chemical signals, ie. serotonin & dopamine)**
- **Involved in the production of vital compounds (ie BDNF)**
- **Maintaining integrity of gut lining and barrier function (prevents leaky gut & leaky gums)**
- **Impact levels of inflammation in the brain and rest of the body**
- **Two–way street**
- **Brain is influenced by food directly and indirectly**

A man and a woman are jogging on a sandy beach. The woman is on the left, wearing a blue tank top, black shorts, and white sneakers. The man is on the right, wearing a white t-shirt, light-colored shorts, and white sneakers. They are both wearing sunglasses. The background shows the ocean with waves and a clear blue sky. A semi-transparent white box with the text "HEALTHY LIVING" is overlaid on the image.

**HEALTHY LIVING**

# REMEMBER THE 3 KEYS

**1.AWARENESS**

**2.EDUCATE/EXPERIENCE**

**3.IMPLEMENT & TAKE ACTION**



**HOW?**



**SOME BRAIN HEALTHY FOODS  
WHICH ARE ALSO BENEFICIAL  
FOR ORAL HEALTH**

# BLUEBERRIES



- Often praised for their powerful antioxidants
- Increased intake may have beneficial effects on spatial learning and memory abilities
- Can reduce the risk of type 2 diabetes, which is known to be a major risk factor for Alzheimer's disease



# LEAFY GREENS

- **Vegetables like cabbage, kale and broccoli protect gut health by reducing inflammation in the bowel lining**
- **Inflammation is the enemy #1 when it comes to brain health**
- **Protect against cancer and cardiovascular disease**
- **Assist detoxification**





# FERMENTED FOODS

- Such as kimchi, kefir, plain yogurt, some kombuchas and sauerkraut are full of key enzymes and probiotics that are important for digestion and gut health
- Eating fermented foods not only appears to restore good bacteria in the gut and benefit your mental health, they can also improve immune function



# PREBIOTIC FOODS

- These fiber rich foods act as food for your good bacteria, which in turn play a major role in brain health. That means more energy to fuel your brain while reducing inflammation.
- Prebiotic foods include: chicory root, artichokes, garlic, onions and more.
- These each act as anti-inflammatory agents, promoting good gut health, supporting digestion and aiding in weight loss.



# NUTS



- Nuts are brain-boosting powerhouse.
- These fantastic snacks contain an abundance of brain-healthy fat and protein
- Nuts have been shown to protect brain health, improve cognitive performance in adults and prevent age-related cognitive decline.

# CACAO

- Pure cacao and dark chocolate promotes a healthy brain.
- This fruit is full of antioxidants and great snack.



**SOME MORE TIPS...**

- **OMEGA-3 FATTY ACIDS**
- **EAT UNTIL YOU ARE ~ 80% FULL**
- **EXERCISE ROUTINELY**
- **DON'T EAT TOO CLOSE TO BEDTIME**
- **AVOID HARMFUL GUT  
SUBSTANCES/CHEMICALS**



**IT'S UP TO YOU**

**“BEFORE YOU HEAL SOMEONE,  
ASK HIM IF HE'S WILLING TO  
GIVE UP THE THINGS THAT  
MAKE HIM SICK.”**

**— HIPPOCRATES**

**SO MY QUESTIONS TO YOU...**

**ARE YOU WILLING TO GIVE UP  
THE THINGS WHICH CAN/DO  
MAKE YOU SICK?**





**ARE YOU WILLING TO IMPLEMENT  
THE THINGS WHICH MAKE YOU  
FEEL GREAT?**



**THANK YOU!**

**Dr.  
Seth  
Gilson**  
The Mindful Doctor

**LET'S CONNECT**

**Dr. Seth Gilson**  
Biological, Holistic and  
Biomimetic Dentist



**@Mindful.Doctor**

**www.Mindful.Doctor**