

GUT INSTINCTS

Dr. Heather Finley

PART 4: APPLICATION OF THE GUT-BRAIN AXIS
IN TREATMENT

ABOUT ME

Dr. Heather Finley

REGISTERED DIETITIAN

Experience in clinical settings, outpatient treatment and now virtual private practice

GUT HEALTH EXPERT

Focused my doctorate training on gut related research and have my own personal experience with 20+ years of digestive issues



TODAYS TOPICS

1

NUTRITION
CONSIDERATIONS

2

NERVOUS
SYSTEM AND GI
SUPPORT

3

SUPPLEMENTAL
SUPPORT

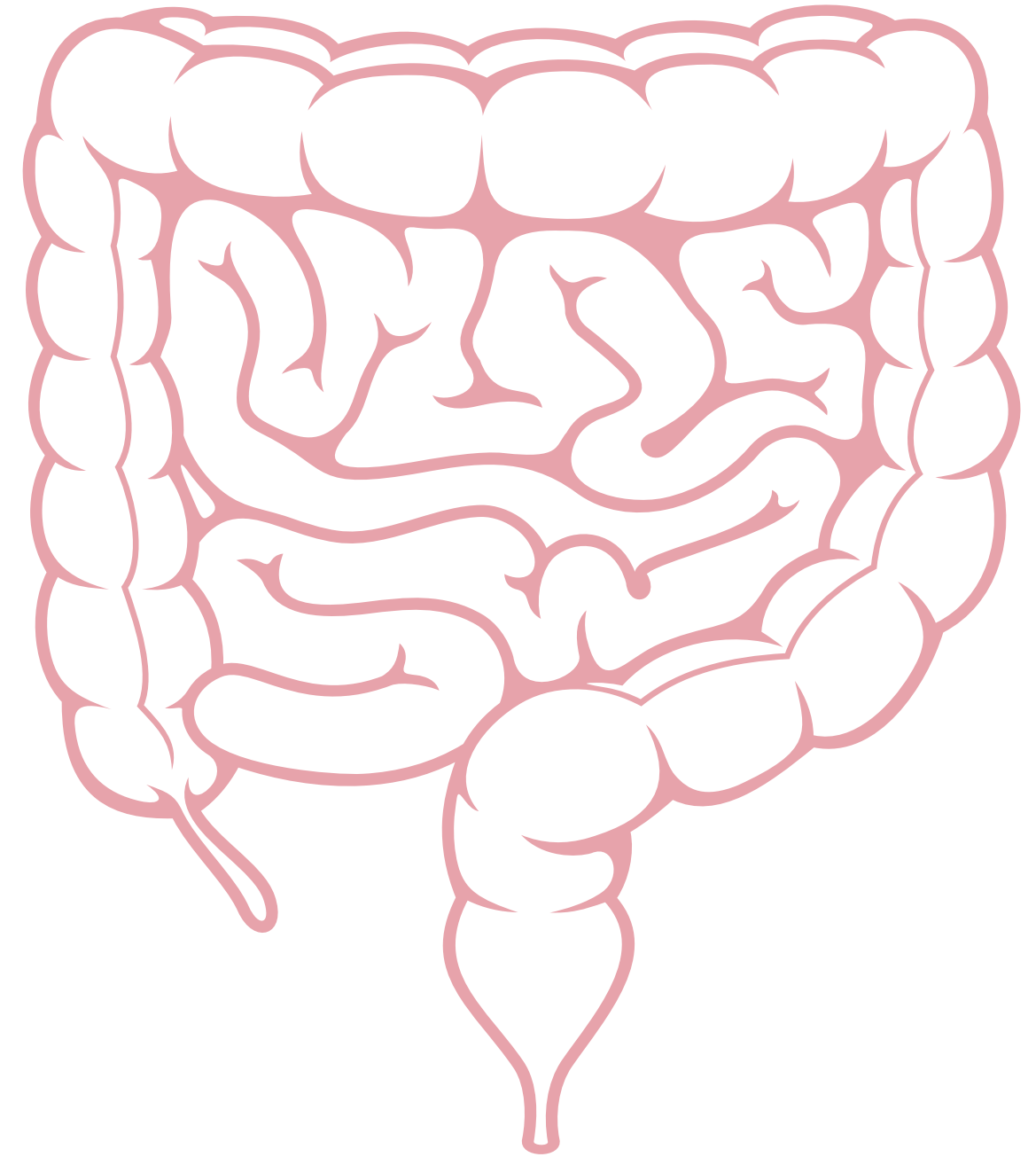
Recap

- Digestion and absorption
 - Communication pathways
 - Trauma and the gut
 - Why diversity matters
 - The gut-brain axis
-



**Your
microbiome
is as unique
as a
fingerprint**

As much as
we DO
know, there
is more we
DON'T
know



What is gut health?

Digestion

**Immune
Health**

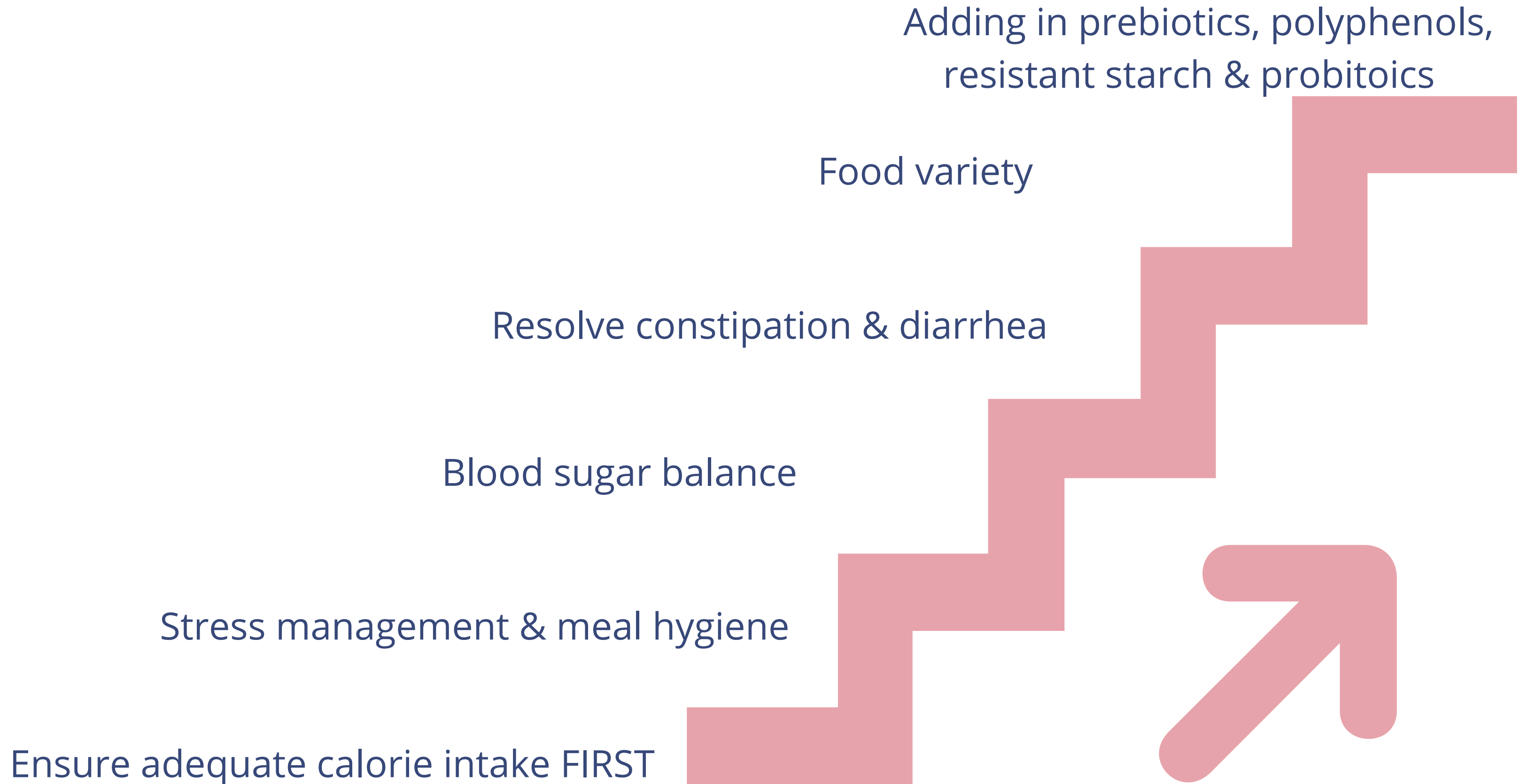
**Micro
organisms**



SO WHERE DO I EVEN START?

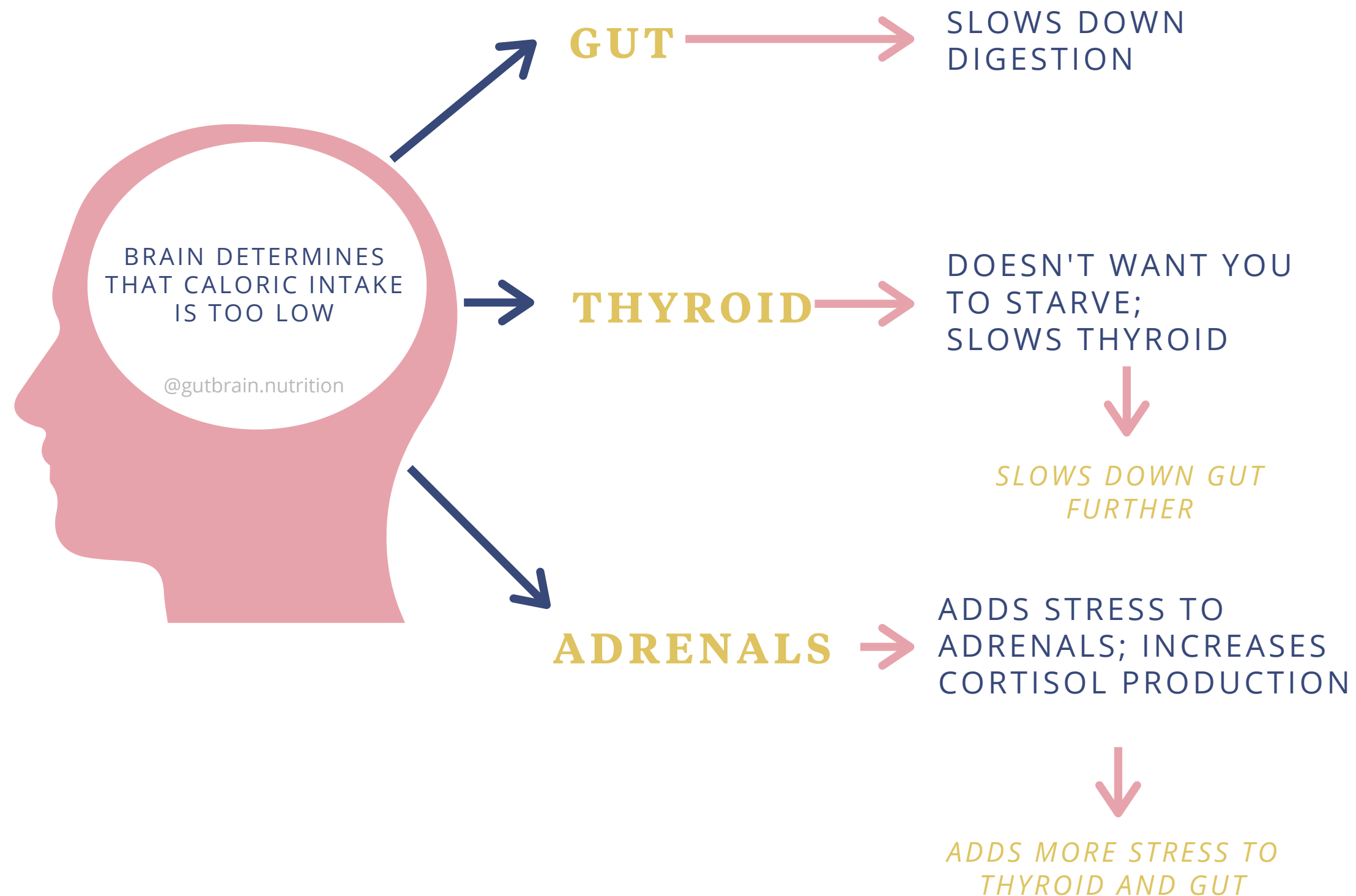
You have to get the brain and gut "online" first!

NUTRITION STEPS



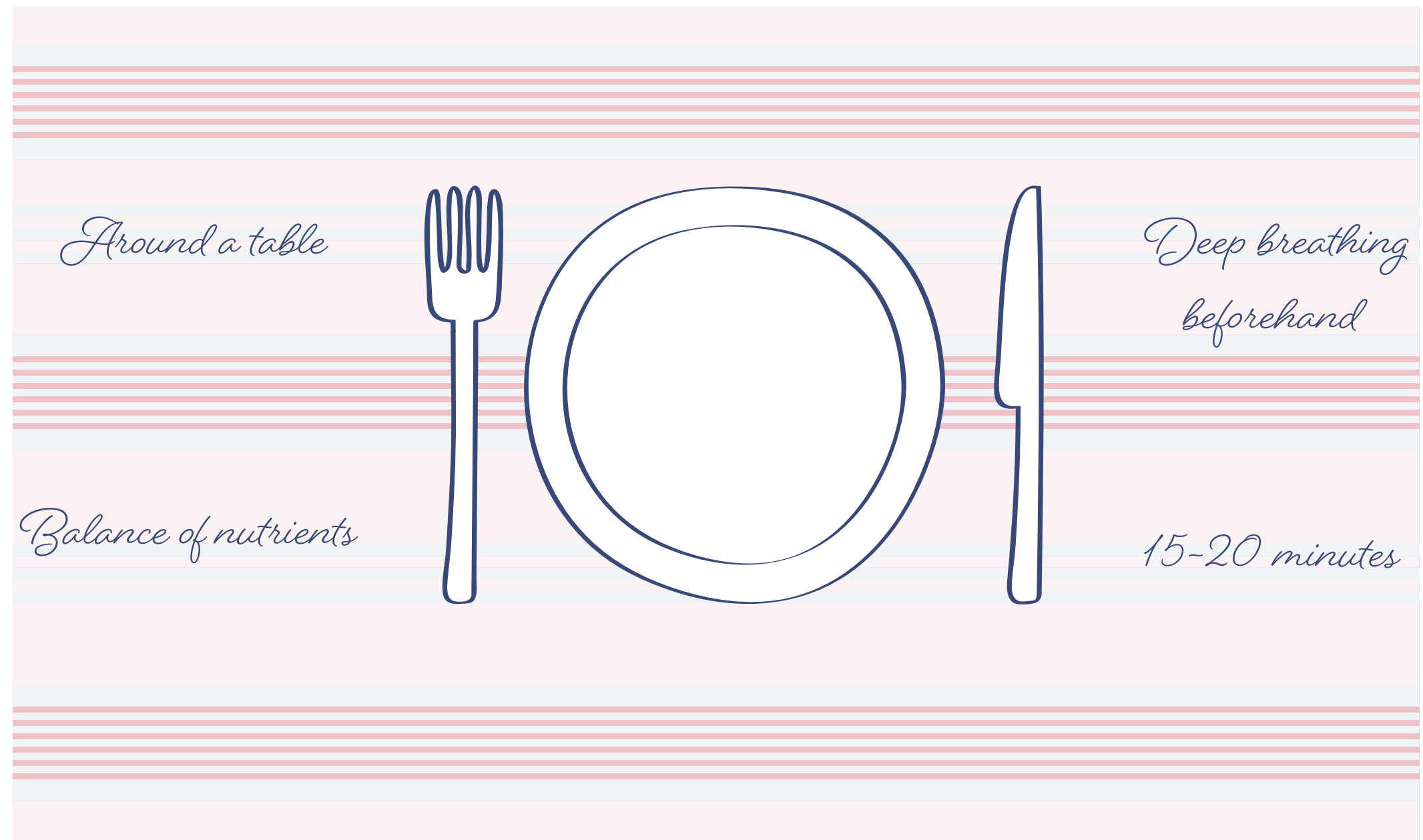
CHRONIC UNDEREATING

and the gut



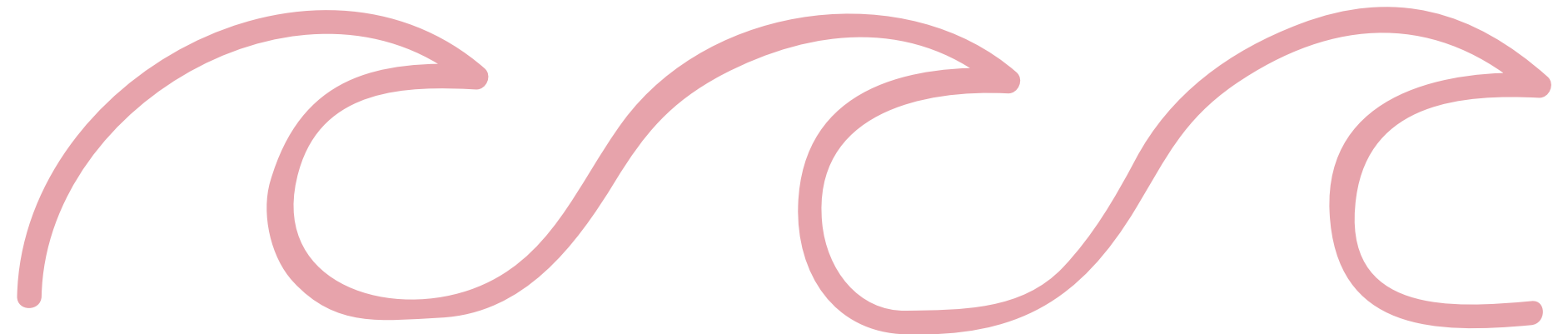
MEAL HYGIENE

- Allow 3 hours between meals
- 15-20 minutes to eat
- Chew to applesauce consistency
- Sit with company, if possible
- Deep breathing beforehand



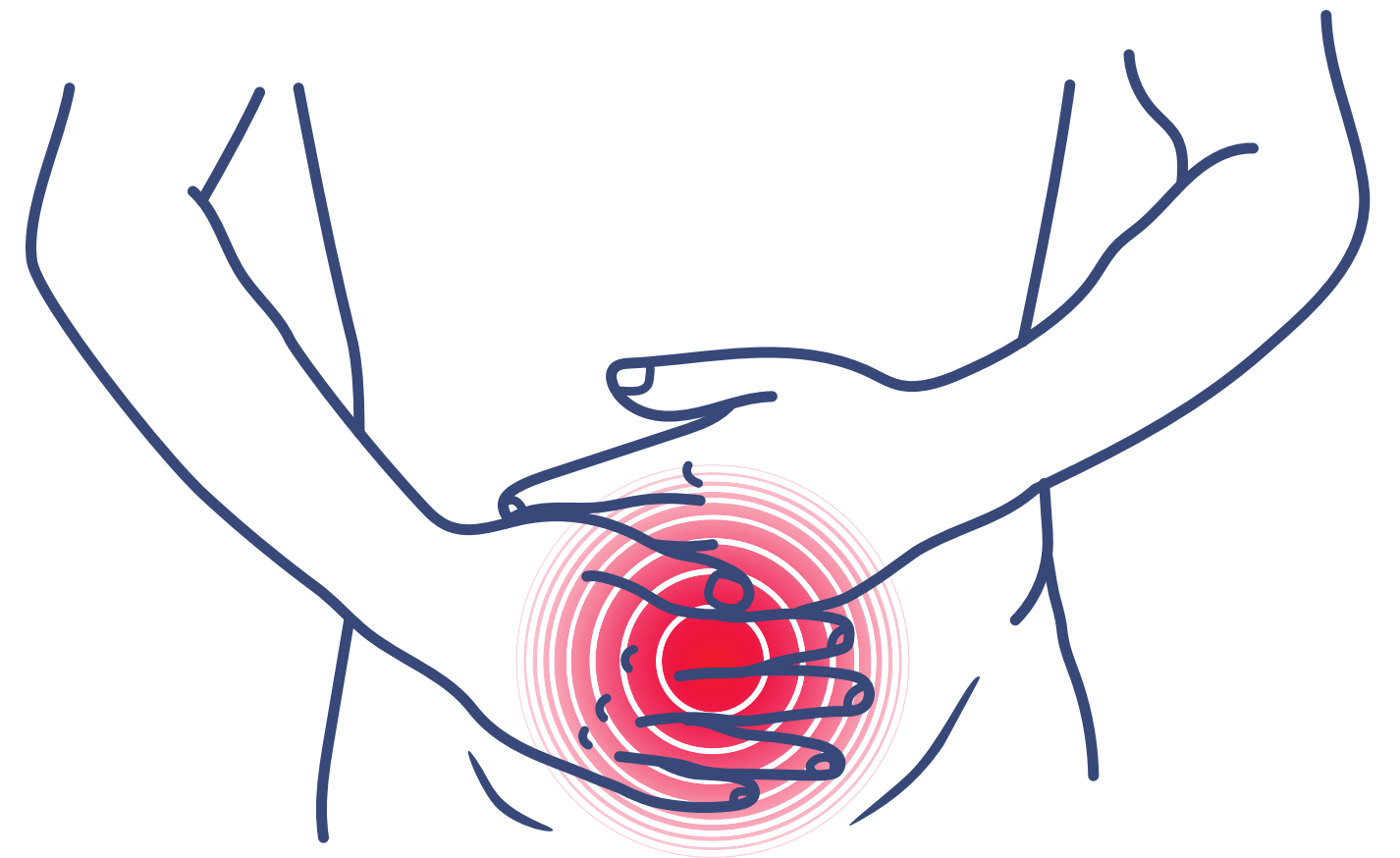
BLOOD SUGAR BALANCE

- Adequate amounts of carbs, proteins, fats at each meal
- Monitoring for hypoglycemic episodes:
 - Shakiness
 - Nausea
 - Irritability
 - Waking up in the middle of the night hungry
- Stable energy throughout the day

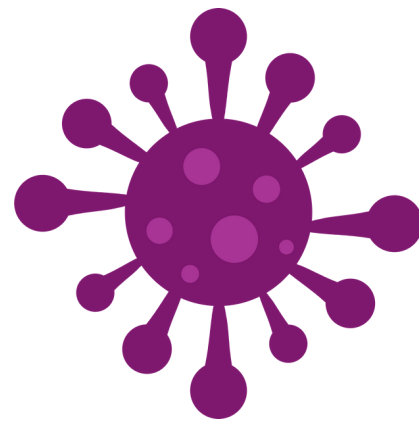


RESOLVE CONSTIPATION

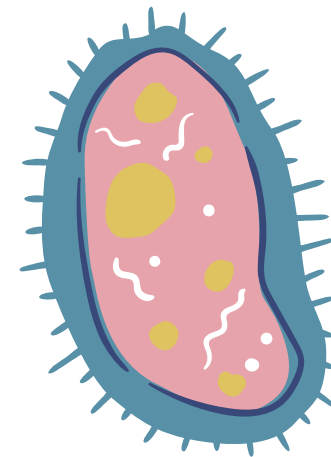
- Loading the gut with fiber when its already backed up will only cause more constipation
- Get bowels moving daily
 - Magnesium citrate
 - Gargling 2-3 minutes a day
 - Ginger tea in between meals
 - Motility Rx or supplement
 - Digestive support as needed



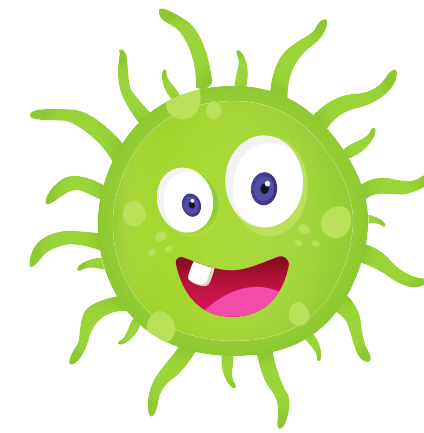
YOUR MICROBES ARE PICKY EATERS



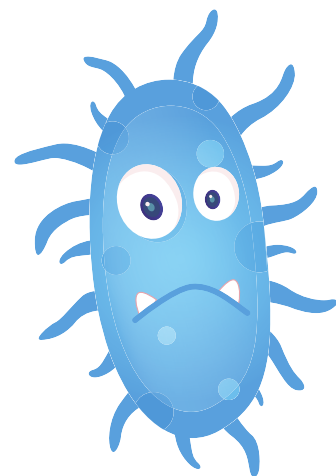
I eat oats!



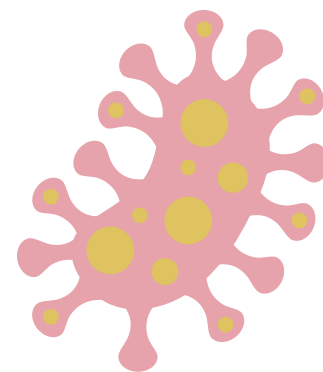
I eat green beans!



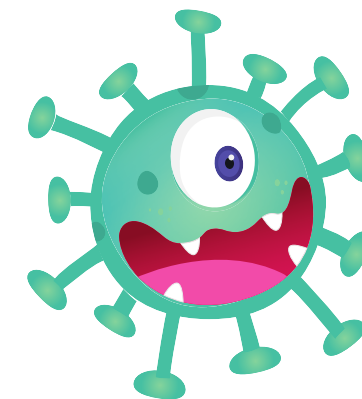
I eat bananas!



Where's my lentils?



I eat almonds!

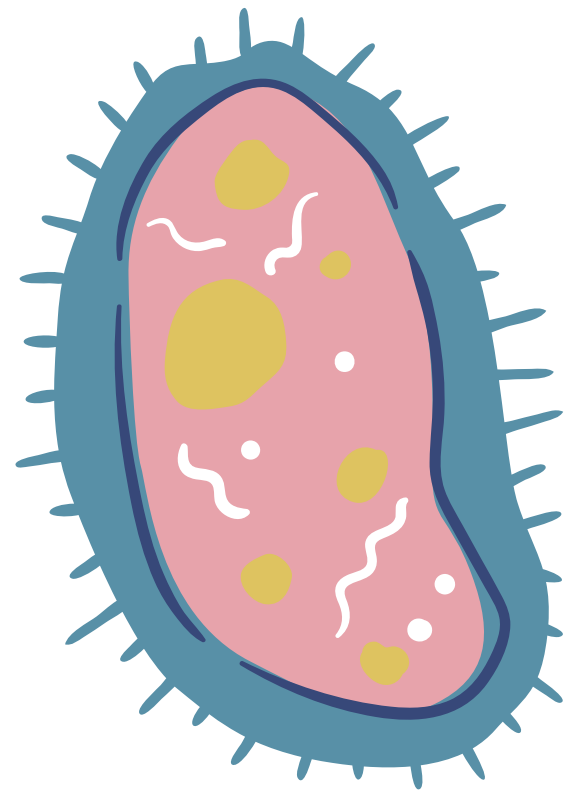


Can I get a kiwi over here?

FIBER RECOMMENDATIONS

- 25-38 grams of fiber daily
- Most Americans eat about half of this
- Plant-based variety
- Blend of soluble and insoluble fiber
 - Insoluble fiber: Bulks stool
 - Soluble: gels and slows
 - Feeds your "good" gut bacteria

PREBIOTIC FIBER BENEFITS



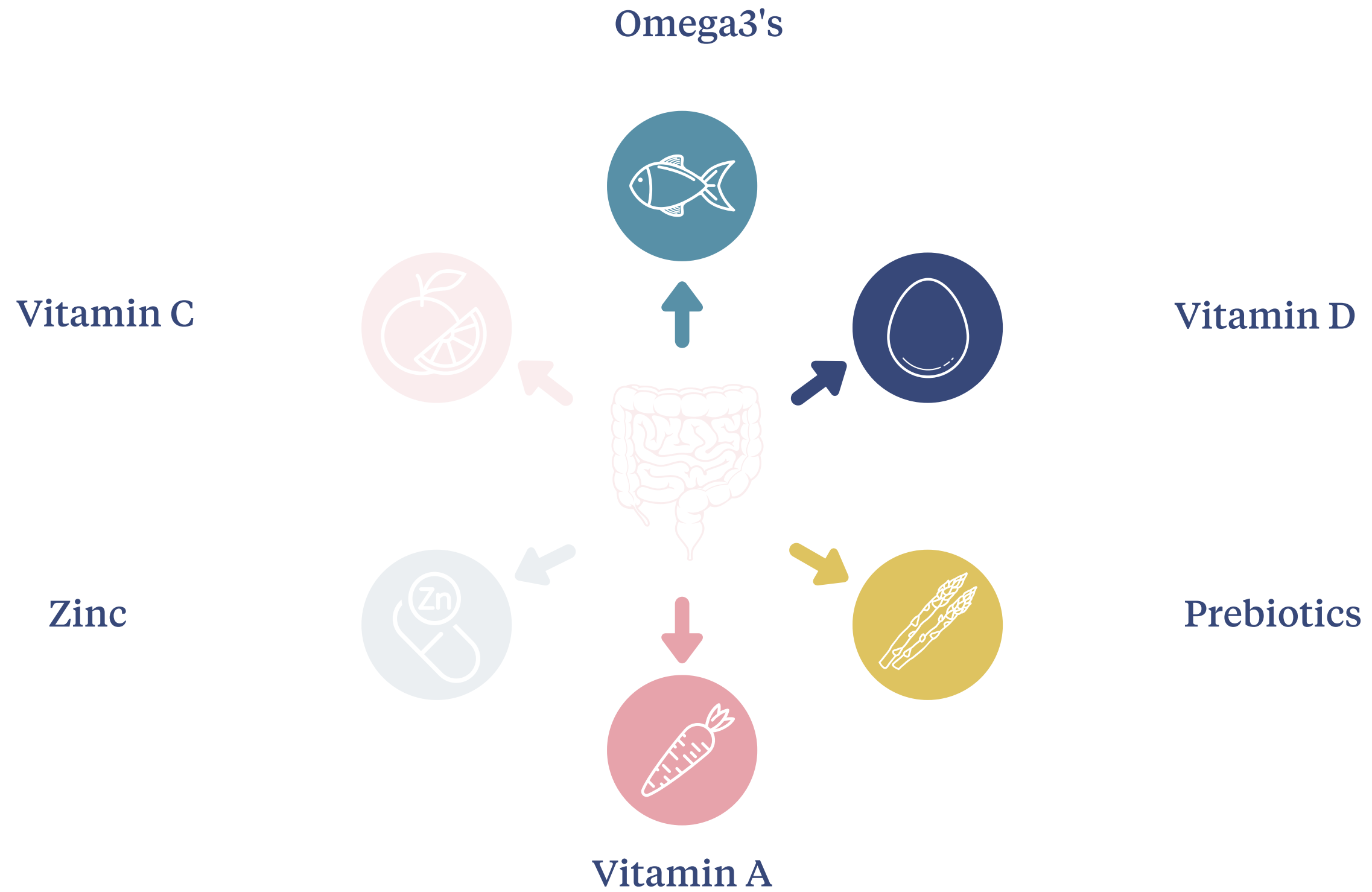
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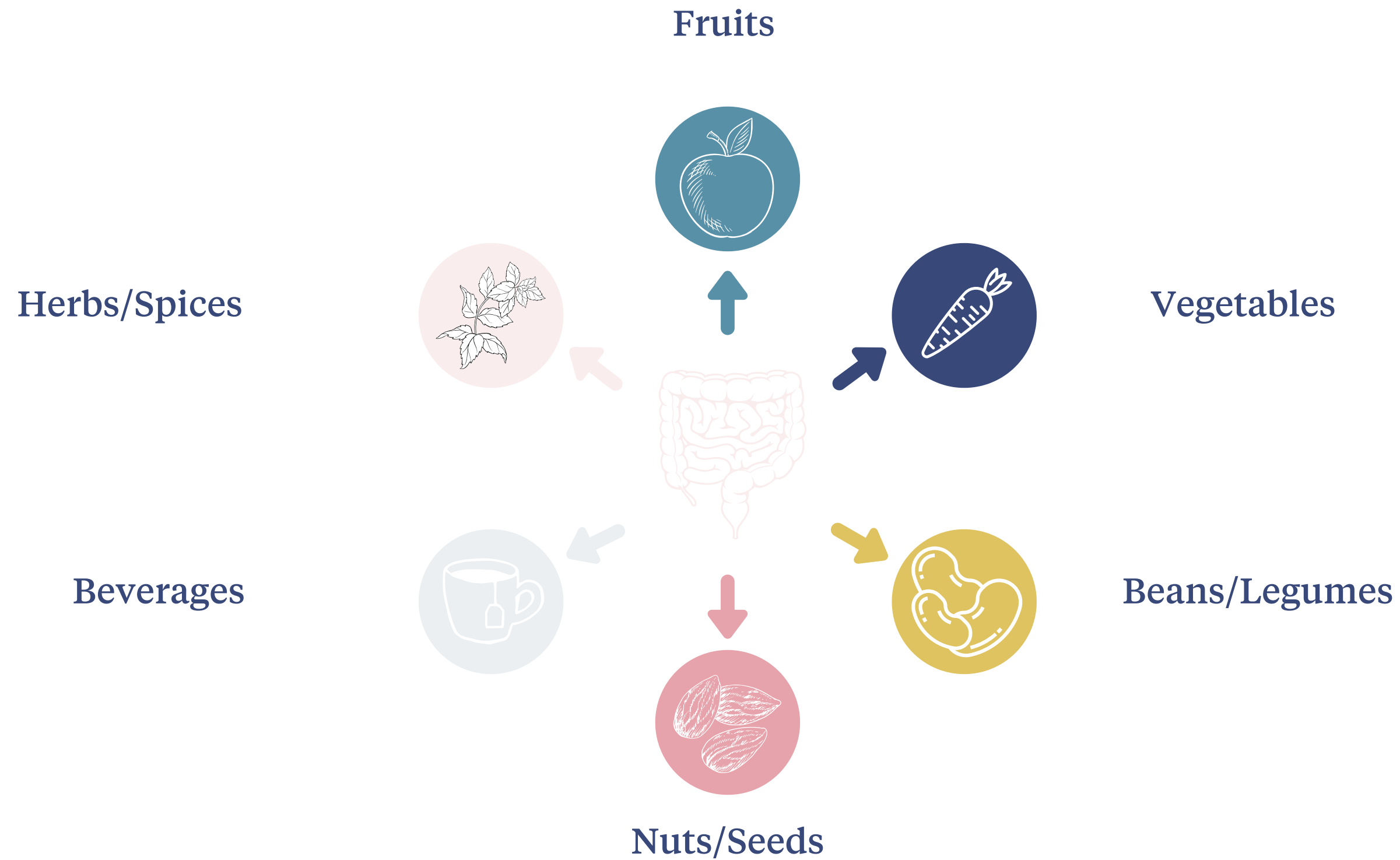
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Reduced inflammation
Short chain fatty acids
Gut barrier
improvement
Microbe diversity

NUTRIENTS

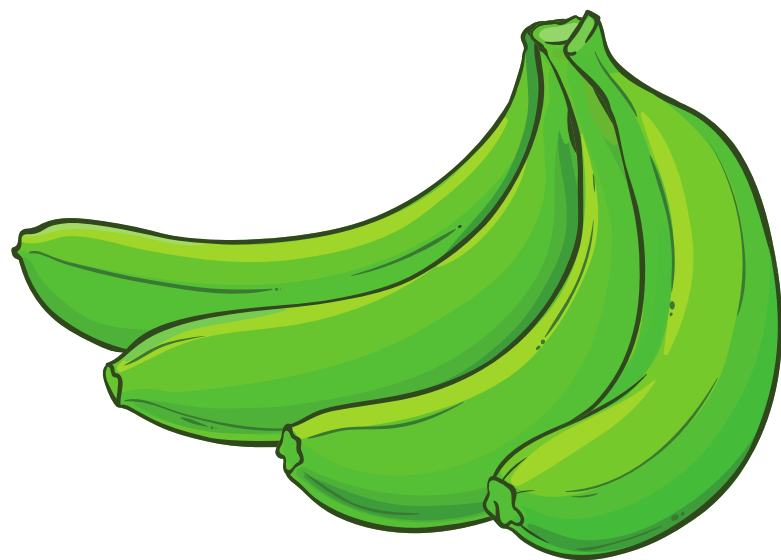


POLYPHENOLS



RESISTANT STARCH

- Molecules that resist digestion
- Functions similar to soluble fiber
- Foods:
 - raw potatoes and green bananas
 - found when certain foods (like potatoes) are cooked then cooled
- Increases the amount of butyrate



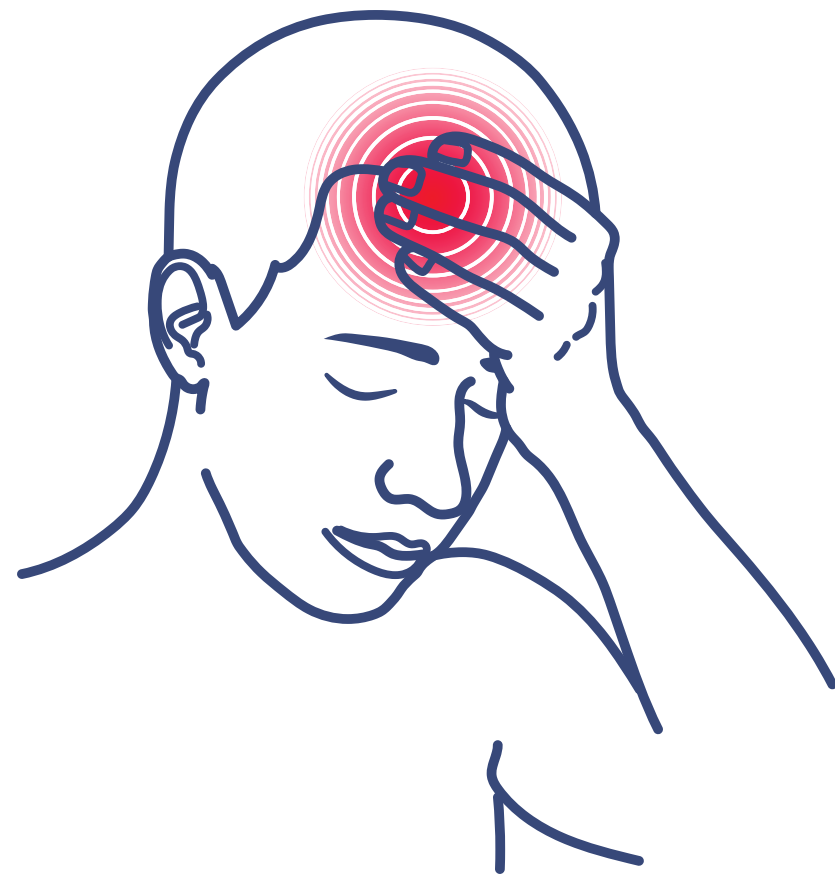
PROBIOTICS ARE LIKE TRAVELERS

*they come in and see the sights, explore the food scene
and then go back home*



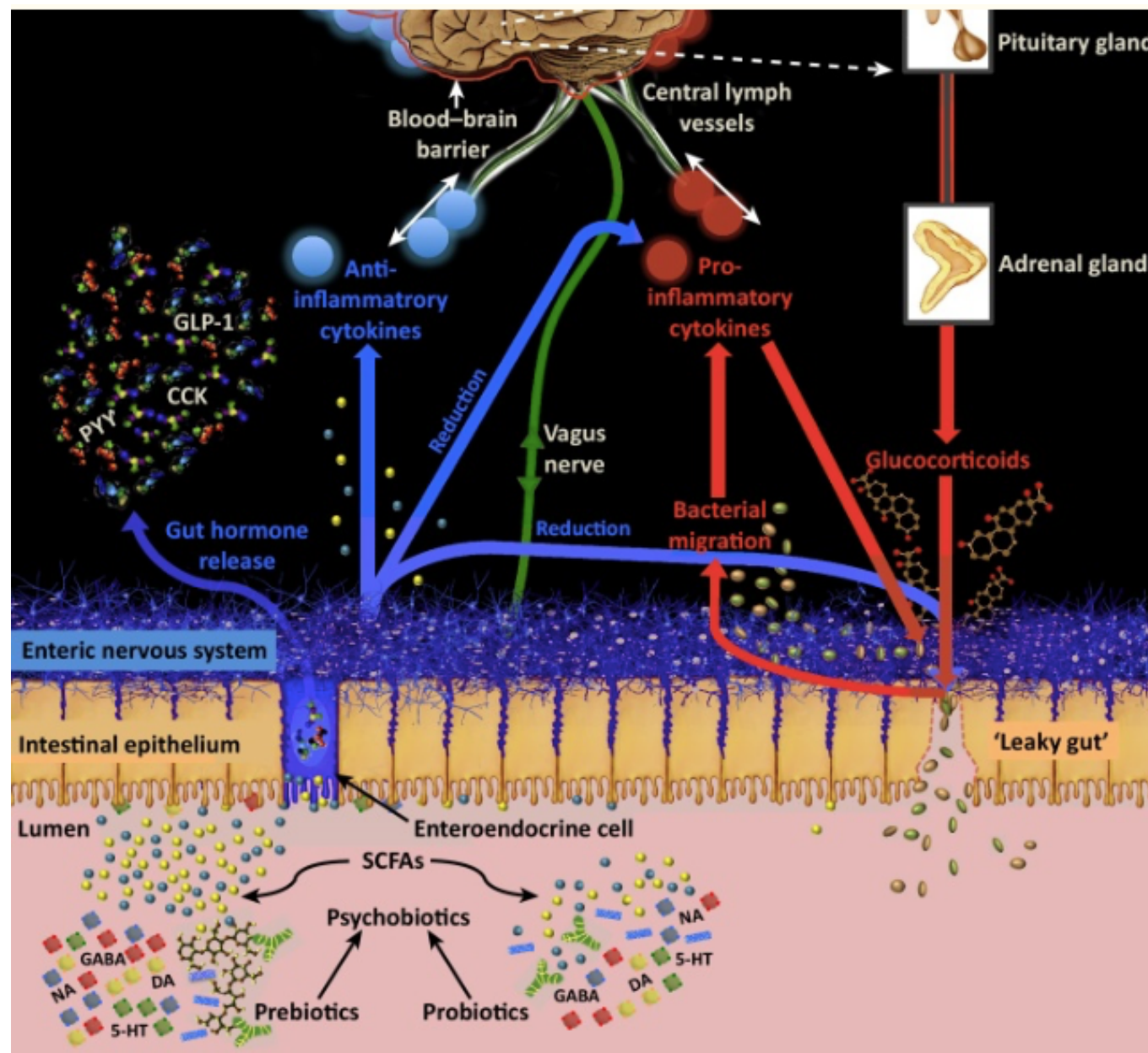
SHOULD YOU USE PROBIOTICS?

- Probiotics are STRAIN specific
- Just like with a headache, you want to take the right medication, at the right strength for the right amount of time



PSYCHOBIOLOGICS

- Live bacteria (probiotics) which, when ingested, confer mental health benefits through interactions with commensal gut bacteria
- This definition has been expanded to encompass prebiotics, which enhance the growth of beneficial gut bacteria



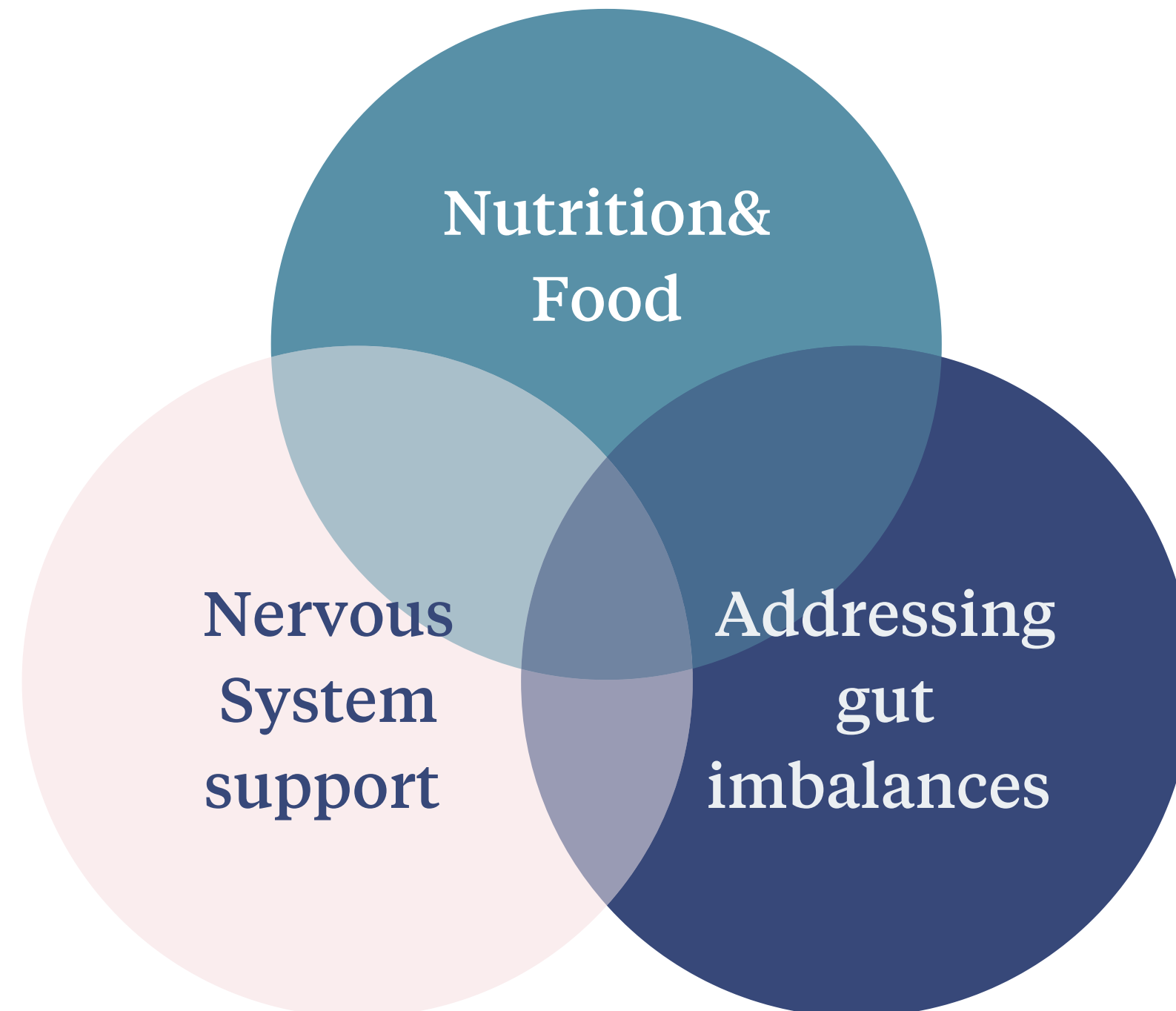
FERMENTATION



- Lacto-fermented food provides beneficial bacteria in fighting off "bad" bacteria in intestines
- Bacteria helps with production of Vitamins K2, B12 and Biotin
- Increase lactobacillus and bifidobacteria in the gut
 - Increase GABA expression
- The types of bacteria depend on even location
- Most of the evidence is anecdotal

NUTRITION FOR GUT-BRAIN

HEALTH



PROBIOTIC STRAINS

Table 1

Mental Health Overview

Mental Health/Neurotransmitters/Stress	Strains	Overview	Professional and Commercial Products	Foods	
Anxiety					
Galland ⁷ (2014)	<i>B fragilis</i>	Associated with decreased anxiety in patients with chronic fatigue syndrome; "Corrects excessive gut permeability, alters gut microbial composition, and ameliorates deficits in communication and stereotypic, anxiety-like, and sensorimotor behaviors in the maternal immune activation model."	Not available	<i>B fragilis</i> :	None
Messaoudi et al ² (2011)	<i>B longum</i> R0175, <i>L helveticus</i> R0052	Daily administration of <i>L helveticus</i> R0052 and <i>B longum</i> R0175 reduced psychological distress, anger hostility. <i>L helveticus</i> R0052 and <i>B longum</i> R0175 taken in combination display anxiolytic-like activity in rats and beneficial psychological effects.	<i>B longum</i> R0175, <i>L helveticus</i> R0052: Dr Formulated Probiotics Mood+ (Garden of Life) <i>L helveticus, B longum</i> R0175: Xymogen Probio Defence <i>L helveticus, B longum</i>: Pure Encapsulations (Probiomood)	<i>B longum</i> R0175	None
				<i>L helveticus</i> R0052	None

Lactobacillus helveticus R0052
 Bifidobacterium longum R0175
 Lactobacillus rhamnosus
 VSL #3

Dolan, K. E., Finley, H. J., Burns, C. M., Gasta, M. G., Gossard, C. M., Parker, E. C., Pizano, J. M., Williamson, C. B., & Lipski, E. A. (2016). Probiotics and Disease: A Comprehensive Summary-Part 1, Mental and Neurological Health. Integrative medicine (Encinitas, Calif.), 15(5), 46–58.

Messaoudi, M., Lalonde, R., Violle, N., Javelot, H., Desor, D., Nejdi, A., . . . Cazaubiel, J. (2011). Assessment of psychotropic-like properties of a probiotic formulation (Lactobacillus helveticus R0052 and Bifidobacterium longum R0175) in rats and human subjects. British Journal of Nutrition, 105(5), 755-764. doi:10.1017/S0007114510004319

PROBIOTIC STRAINS

Table 3. Summary of Brands of Nutritional Supplements by Health Concern

Health Concern	Professional and Commercial Products	Strains
Attention-deficit/hyperactivity disorder	Advanced Multi-Billion Dophilus (Solgar); Advanced 40+ Acidophilus (Culturelle); Lactobacillus GG (Walgreens); Probiotic <i>Lactobacillus GG</i>	<i>L. rhamnosus GG</i>
Age-related cognitive decline	Nexabiotic (Bioprosper Labs)	<i>S. boulardii</i> , <i>S. thermophilus</i> , <i>L. fermentum</i> , <i>L. acidophilus</i> , <i>L. brevis</i> , <i>L. bulgaricus</i> , <i>L. casei</i> , <i>L. helveticus</i> , <i>L. paracasei</i> , <i>L. plantarum</i> , <i>L. rhamnosus</i> , <i>L. salivarius</i> , <i>L. lactis</i> , <i>B. coagulans</i> , <i>B. bifidum</i> , <i>B. breve</i> , <i>B. infantis</i> , <i>B. lactis</i> , <i>B. longum</i> , <i>P. acidilacti</i>
Age-related cognitive decline	VSL#3 (Sigma Tau Pharmaceuticals)	<i>B. longum</i> , <i>B. infantis</i> , <i>B. breve</i> , <i>L. acidophilus</i> , <i>L. casei</i> , <i>L. delbrueckii</i> subsp. <i>bulgarici</i> , <i>L. plantarum</i> , <i>S. salivarius</i> subsp. <i>thermophiles</i>
Autism	Digestive Health Probiotic (Nature Made); Heart Healthy Probiotic Solutions (Dr Sinatra); Jarrow Formulas Ideal Bowel Support (10 billion CFU per capsule); Plantadophilus (Transformation Enzymes, 3 billion CFU per capsule); Probiata Digestion Support and Critical Care (Kyolic); and many more	<i>L. plantarum</i>
Autism	Probiotic Balance (Sundown Naturals)	<i>L. plantarum</i> , <i>B. longum</i>
Autism	Prothera LactoPrime Plus	<i>L. rhamnosus</i> , <i>L. acidophilus</i> , <i>L. plantarum</i> , <i>L. salivarius</i> , <i>L. casei</i> , <i>B. bifidum</i> , <i>B. infantis</i> , <i>B. longum</i> , <i>B. breve</i>
Autism	Ther-biotic Children's Chewable	<i>L. rhamnosus</i> , <i>L. casei</i> , <i>L. salivarius</i> , <i>B. infantis</i> , <i>B. bifidum</i> , <i>B. longum</i> , <i>B. breve</i>
Autism	Ther-biotic Complete (Prothera)	<i>L. rhamnosus</i> , <i>B. bifidum</i> , <i>L. acidophilus</i> , <i>L. casei</i> , <i>B. longum</i> , <i>B. breve</i>
Autism	Widely available	<i>L. acidophilus</i>
Cerebral ischemia/reperfusion	AOR Probiotic-3	<i>C. butyricum</i>
Cerebral ischemia/reperfusion	Miyarisan MIYARISAN 630 Tablets	<i>C. butyricum</i>
Depression	Dr Formulated Probiotics Mood+ (Garden of Life)	<i>B. longum</i> , <i>B. bifidum</i> , <i>B. breve</i> , <i>B. infantis</i> , <i>L. helveticus</i> , <i>L. rhamnosus</i> , <i>L. acidophilus</i> , <i>L. casei</i> , <i>L. plantarum</i> + ashwaganda and food extracts
	FLORASSIST Mood (Life Extension)	<i>L. acidophilus</i> , <i>L. rhamnosus</i> , <i>B. bifidum/lactis</i> , <i>B. longum</i>
	Pure Encapsulations (Probiomood)	<i>L. helveticus</i> , <i>B. longum</i>
	Xymogen Probio Defense	<i>L. helveticus</i> Roselle-52, <i>L. rhamnosus</i> Roselle-11, <i>B. longum</i> Roselle-175
Multiple sclerosis	Flora 50-14 and Flora 20-14 (Innate Response)	<i>L. casei</i> , <i>L. acidophilus</i> , <i>L. reuteri</i> , <i>B. bifidum</i> , <i>S. thermophiles</i> combined
Multiple sclerosis	IRT5 probiotic powder	<i>L. casei</i> , <i>L. acidophilus</i> , <i>L. reuteri</i> , <i>B. bifidum</i> , <i>S. thermophiles</i> combined
	Mega Flora Plus (Mega Food)	
Traumatic brain injury	Adult Probiotic (Probiolac)	<i>B. longum</i> , <i>L. bulgaricus</i> , <i>S. thermophiles</i> combined
	Mega Flora Plus (Mega Food)	
Traumatic brain injury	Nexabiotic (Bioprosper Labs)	
Traumatic brain injury	Not available	<i>L. johnsonii</i>
Traumatic brain injury	Propolis Plus (Essential Formulas)	<i>B. longum</i> , <i>L. bulgaricus</i> , <i>S. thermophiles</i> combined
	Super 8 Hi-Potency VSL#3 (Sigma Tau Pharmaceuticals)	

Irritable Bowel Disease	Digestive Health Probiotic (Nature Made)	<i>L. plantarum 299v</i>
Irritable Bowel Disease	Heart Healthy Probiotic Solutions (Dr Sinatra)	<i>L. plantarum 299v</i>
Irritable Bowel Disease	Ideal Bowel Support (Jarrow Formulas)	<i>L. plantarum 299v</i>
Irritable Bowel Disease	Probiata Digestion Support and Critical Care (Kyolic)	<i>L. plantarum 299v</i>
Irritable Bowel Disease	Probiotic Balance (Sundown Naturals)	<i>L. plantarum 299v</i>
Irritable Bowel Disease	Probiotic GX (Nature's Bounty)	<i>L. plantarum 299v</i>
Irritable Bowel Disease	Probiotic Supplement (GoodBelly)	<i>L. plantarum 299v</i>
Irritable Bowel Disease	Activia yogurt	<i>B. animalis</i> subsp. <i>lactis</i> DN-173-010
Irritable Bowel Disease	Align Probiotics (Proctor & Gamble)	<i>B. infantis</i> 35624
Irritable Bowel Disease	Probiomix Ltd, Sydney, Australia	<i>L. fermentum</i> VRI-003
Irritable Bowel Disease	VSL#3 (Sigma Tau)	<i>L. acidophilus</i> VSL

SUPPLEMENTAL SUPPORT

- Stomach acid support or digestive bitters
- Multivitamin if intake is restricted for a long time
- Zinc?
 - Piccolionate, acetate, carnosine
- Probiotics??
- Omega 3's
 - If fish intake is low (<3 times a week)
- Digestive enzymes if needed
- Minerals and electrolytes
 - Magnesium, sodium, potassium

GUT HEALTH AND EATING DISORDER RECOVERY

01

Ensure adequate calorie intake

02

Apply appropriate nervous system support (mindfulness, meditation, therapy, etc)

03

Address underlying "gaps" in the diet and encourage adequate variety intake
Encourage proper meal hygiene

04

Improve fermented food intake, probiotics and gut support if necessary

TO IMPROVE DIGESTIVE HEALTH START WITH STRESS MANAGEMENT AND EATING ENOUGH CALORIES TO GET OUT OF SURVIVAL MODE



Questions



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[@gutbrain.nutrition](https://www.instagram.com/gutbrain.nutrition)

