



How Gut Health Affects Brain Health

Presented by The Dancing Sky Area Agency on Aging and
Chelsea Kazmierczak-Goethel, MS

**This presentation is meant for educational purposes only and should not be taken as medical advice or used in place of guidance from your healthcare provider.*

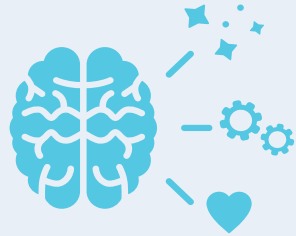




OVERVIEW

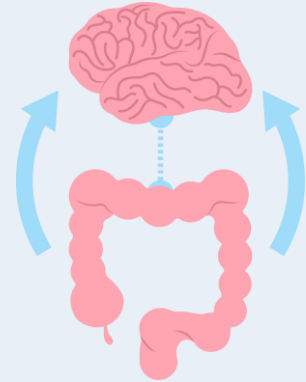
Gut-Brain Connection

Learn about the vital link between the gut and the brain, and explore how gut health influences mental well-being and cognition.



Digestive Health Promotion

Discover practical strategies to improve digestion, including proper nutrition, hydration, and a balanced diet.



Optimal Brain Function

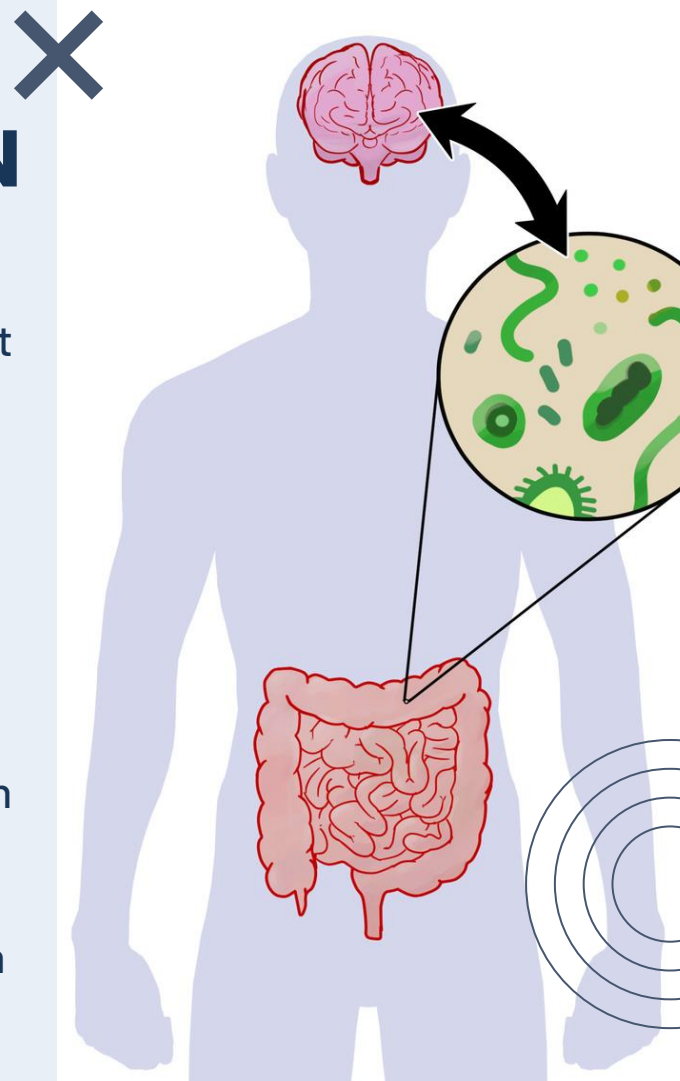
Learn lifestyle practices that enhance gut health and support cognitive well-being.



THE GUT-BRAIN CONNECTION

Defining the gut-brain axis:

- The bidirectional, constant, communication between the gut and the brain.
- The gut and the brain are connected through a complex network of nerves, hormones, neurotransmitters, and other chemicals.
- The gut = our second brain.
- This connection is made possible by the gut microbiota and the vagus nerve.
 - Microbiota = a diverse community of microorganisms in the GI tract play a key role in the connection via neurotransmitters and the immune system.
 - Vagus nerve = the cranial nerve that connects the brain and the gut and allows communication.



THE GUT-BRAIN CONNECTION



The impact of gut health on mental well-being and cognition:

- The gut-brain connection has a significant influence on cognition and mental health.
- The state of the gut impacts mood, emotions, mental health, memory, and cognition.
- Gut imbalances or inflammation can contribute to depression, anxiety, memory changes, and more.
- Studies show that as we age, the more nourished and diverse our microbiome is, the healthier our brains, immune systems, and hearts are.
 - At a cellular level, we have at least as many microbial cells as we do human cells!





GUT HEALTH AND THE DIGESTIVE SYSTEM

Digestive Health = Gut Health

A healthy digestive tract (GI tract) is essential for optimal nutrient absorption, waste elimination, and overall well-being.

Nutrition, Lifestyle & a Balanced Diet

A balanced diet (good nutrition) = a diet that includes fiber, vitamins, minerals, protein, fatty acids, and adequate hydration. Lifestyle is also incredibly important to a healthy gut-brain relationship.

Factors Influencing Gut Health

Factors that influence gut health include diet, hydration, stress levels, medication use, age, disease states, and more.

***Make sure to discuss any medication or supplement use with your healthcare provider.*

Fiber, Probiotics, Prebiotics

These items are important for GI health as they promote bowel regularity, reduce bowel inflammation, nourish beneficial gut bacteria, and promote a balanced gut microbiome.

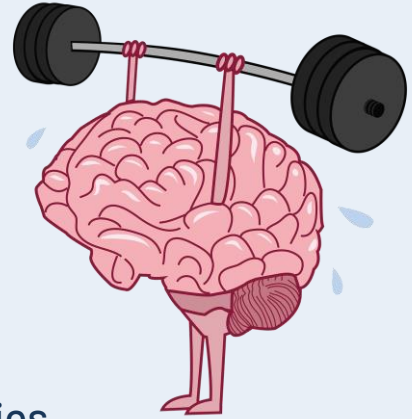




GUT-BRAIN HEALTH BENEFITS

Positive impact of gut health on brain function:

- Improved mood and emotional well-being.
 - Reduced symptoms of depression, anxiety, and stress.
 - Enhanced resilience to emotional challenges.
 - Promotion of positive outlook and emotional balance.
- Enhanced cognitive abilities.
 - Improved focus, concentration, and mental clarity.
 - Enhanced cognitive flexibility and problem solving abilities.
 - Potential reduction in the risk of age-related decline, such as dementia or Alzheimer's disease
- Promotion of healthy aging and longevity.
- Overall well-being and quality of life, including a connection to the immune system and heart health.



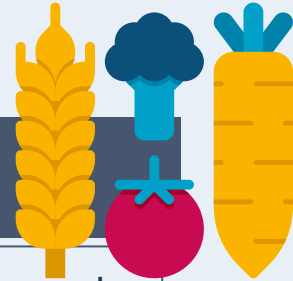
PROMOTING DIGESTIVE HEALTH



Practical Tips for Improving Digestive Health

- × Eat smaller, more frequent meals and snacks throughout the day rather than large meals.
- × Chew food thoroughly to aid digestion, and/or choose soft foods that are easier to chew.
- × Avoid eating too quickly or mindlessly—limit television or other screens during meals.
- × Before eating, pause to say grace and give thanks for your food.
 - × This helps activate the part of the nervous system that connects the gut & brain.
- × Talk to a licensed provider about supplemental support or medication use.

PROMOTING DIGESTIVE HEALTH



Dietary Recommendations for Seniors

- × Eat the rainbow—consuming a variety of fruits and vegetables provides essential vitamins, minerals & fiber.
- × Fruit rec: 2 cups/day
- × Vegetable rec: 2-3 cups/day

- × Incorporate whole grains for fiber and nutrients—choose whole grains over white or refined foods whenever possible.

- × Protein is key! Focus on lean protein sources: poultry, fish, dairy, beans/legumes, tofu, protein powders/shakes.
- × Optimal intake: 1.2 – 2.0 grams / kg of body weight per day.

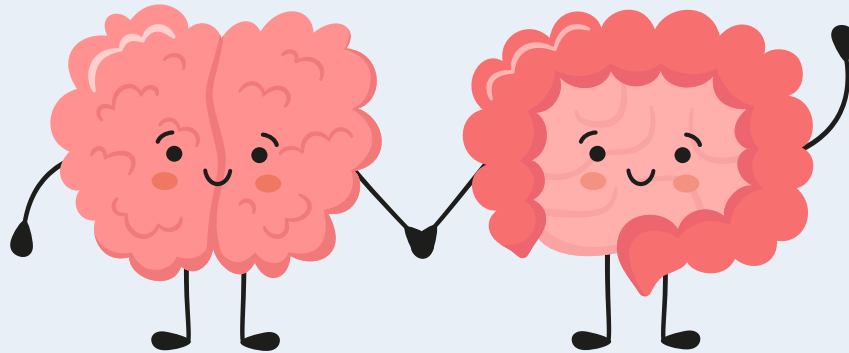
- × Limit processed foods and high sugar items that disrupt gut health and lead to inflammation.
- × For dessert, try fruit, dark chocolate, smoothies, yogurt.

****Aim to consume food out of each food group at every meal: vegetables, fruits, whole grains, fiber, protein, healthy fats!**

NUTRITION FOR GUT-BRAIN HEALTH

Nutrition is important for maintaining a healthy gut-brain connection via:

- Providing essential nutrients, vitamins and minerals that support gut and brain health.
- Promoting a diverse and balanced gut microbiome.
- Reducing gut inflammation which reduces systemic inflammation, leading to a healthier brain.





NUTRITION FOR GUT-BRAIN HEALTH



Key nutrients and foods for gut-brain health:

- Fiber: vegetables & fruits (with the skins), whole grains, beans/legumes, brown rice, potatoes with the skin, almonds chia seeds
- Omega-3 fatty acids: fatty fish, flax & chia seeds, eggs, fortified foods
- Antioxidants: blueberries, blackberries, strawberries, apples, cranberries, melon, dark leafy greens, tomatoes, carrots, sweet potatoes, squash
- Fermented foods: sauerkraut, yogurt, kombucha
- Vitamin D & Calcium: spinach, kale, fish with bones, fortified foods
- B Vitamins: whole grains, dairy, meat, fish, leafy greens, liver, eggs
- Tryptophan & Tyrosine: cod, pork, turkey, salmon, eggs, cheese, nuts, seeds





NUTRITION FOR GUT-BRAIN HEALTH

Tips on making healthy eating easier and more enjoyable:

- Add fruits and vegetables to the foods you already eat.
- Try smoothies or shakes for breakfast or snacks.
- Lightly cook vegetables for easier digestibility.
- Keep fruit and/or vegetables in a visible place.
- Use herbs, spices, or citrus for taste and flavor without added sodium.
- Take time to prepare meals and snacks in advance- having things pre-sliced or prepared will make the easier to eat and use.



HYDRATION AND GUT-BRAIN HEALTH



HYDRATION IS IMPORTANT FOR:

- Promotion of proper digestion, GI motility, and absorption of nutrients.
- Communication between the gut & the brain, as well as communication within the brain.
- Supporting the transportation of waste products and toxins out of the brain and the body.

RECOMMENDED FLUID INTAKE:

- Aim for at least 8 cups (64 ounces) per day, minimum. This includes water, infused water, herbal tea, electrolyte replenishers, soup/broth, smoothies, and hydrating foods.
 - Fluid intake may need to be adjusted based on health status and activity level.

TIPS FOR STAYING HYDRATED:

- Carry a reusable water bottle/container for easy access- find one you like to drink out of.
- Set reminders, use a hydrating tracking app, or post-it notes to ensure regular fluid intake.
 - Incorporate hydrating foods into your meals (soups, smoothies, juicy fruits).
 - Limit the intake of dehydrating beverages like caffeinated or sugar drinks.
 - Drink a glass of warm water upon rising to support the microbiome!



PREBIOTICS AND PROBIOTICS

- **Prebiotics** are non-digestible fibers that serve as food for beneficial gut bacteria. They promote the growth and activity of beneficial gut bacteria, which positively impact gut and brain health.
- **Probiotics** are live microorganisms that help maintain a diverse and balanced gut microbiome, support digestion, and contribute to a healthy gut-brain connection.
- Foods:
 - Prebiotic foods: bananas, onions, garlic, asparagus, whole grains, legumes
 - Probiotics foods: yogurt, kefir, fermented vegetables (sauerkraut, kimchi), tempeh
 - Supplementation under professional guidance.





LIFESTYLE PRACTICES FOR GUT-BRAIN HEALTH



Regular Physical Exercise

Stress Management Techniques



Quality Sleep





EXERCISE & GUT-BRAIN HEALTH

Regular exercise can positively influence the brain via:

Improving gut motility and digestion through increased muscle contraction.

Enhancing the diversity and balance of the gut microbiome.

Reducing gut (and overall) inflammation and improving gut barrier function (leading to a healthier immune system).

Providing a direct positive impact on cognitive function, memory, and overall brain health, leading to improved mood and mental well-being.



EXERCISE RECOMMENDATIONS



Incorporate balance and flexibility exercise like (chair) yoga or tai chi.

Include aerobic exercises like walking, swimming, or cycling to increase heart rate and blood flow.

Add strength training exercises to improve muscle mass, tone and overall strength.

Recommendation: 150 minutes or more per week of moderate intensity aerobic exercise per week + strength training 2X per week.

Don't be intimidated... start wherever you're comfortable. Research shows us that 15-20 minutes of walking per day has gut & brain health benefits.



STRESS MANAGEMENT

Stress can negatively impact the gut-brain connection via:

- Activation of the “fight-or-flight” response, which disrupts digestion and cognition.
- Increasing susceptibility to GI disorders like IBS or IBD.
- Creating inflammation and an imbalance in the gut microbiome.

Techniques for managing stress and promoting gut health:

- Mindfulness & meditation practices to reduce stress.
- Supporting the vagus nerve.
- Deep breathing exercises to activate the relaxation response.
- Engaging in hobbies, activities, or social interactions that bring joy.
- Seeking support from friends, family, or professional counselors to manage stress effectively.
- Create a stress reducing lifestyle: set aside time for self-care activities (reading, music, journaling), and establish healthy boundaries to manage triggers.





HOW TO SUPPORT THE VAGUS NERVE

DEEP BREATHING

- 2-3 times per day
- 4-7-8 Breathing
- Box Breathing
- Equal Breathing

COLD EXPOSURE

- Cold washcloth on your face or neck
- Cold showers
- Use the cold weather!

SINGING

- Your favorite tune
- Humming or chanting are great, too

LAUGHING

- Out loud!
- Find a comedy you enjoy
- Laugh with friends or on your own

GARGLING

- With warm water each morning and night after you brush your teeth
- Aim for 30 seconds

GRATITUDE

- Start a gratitude journal
- Every morning & every night, list 3 things you are thankful for



SLEEP & GUT-BRAIN HEALTH

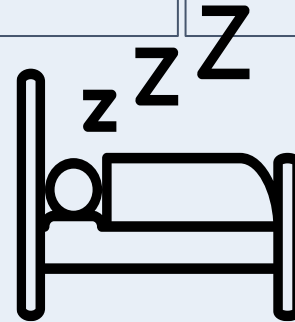
Quality Sleep Contributes to Health Gut Brain Connection

× By providing time for the brain and the GI tract to detoxify and heal.

× By regulating gut hormones that control appetite, metabolism, and digestion.

× By restoring the gut microbiome balance and reducing gut (and systemic) inflammation.

× By promoting healthy gut-barrier function and improved nutrient absorption.





TIPS FOR IMPROVING SLEEP QUALITY

- × Establish a consistent sleep schedule by going to bed and waking up at the same time each day.
- × Create a sleep-friendly environment with comfortable bedding, proper room temperature, and minimal light/distractions.
- × Practice a relaxing bedtime routine, such as reading, taking a bath/doing a foot soak, or engaging in relaxation techniques.
- × Limit caffeine and alcohol intake, especially close to bedtime .
- × Engage in regular physical exercise to promote tiredness and improve sleep quality.
- × Avoid excessive daytime napping to prevent disruption of the sleep-wake cycle.
- × Limit exposure to electronic devices before bed to promote melatonin production.
- × Consider supplementation with melatonin, magnesium, L-theanine, lavender, lemongrass, passionflower, etc. **Consult your healthcare provider.*





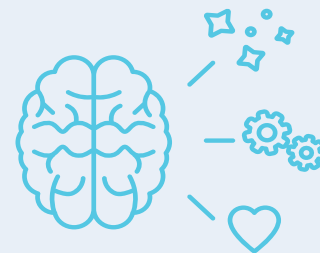
GUT-BRAIN HEALTH IN EVERYDAY LIFE

Mindful Eating

- Take time to savor your food and chew slowly.
- Pay attention to hunger and fullness cues.
- Consume nutrient dense food frequently throughout the day.

Regular Physical Activity

Practice Stress Reduction



Prioritize Quality Sleep

Overall Lifestyle Balance

Make Small Changes for Long-Term Benefits



GUT-BRAIN HEALTH & MENTAL WELLBEING

Exploring the impact of gut health on mental wellbeing:

- The gut microbiome plays a key role in producing neurotransmitters (serotonin, dopamine, GABA), which influence mood and emotions.
- The health of the gut-brain connection is involved in brain health.
- Imbalances in the gut microbiome are associated with mental health conditions.

Strategies for maintaining positive mental wellbeing:

- Consume a varied and nutrient rich diet.
- Incorporate prebiotic and probiotic-rich foods.
- Manage stress, participate in daily self-care.
- Nurture positive relationships with friends and family.
- Prioritize sleep and movement.
- Seek professional support for mental health or cognitive health concerns when needed.



COGNITIVE WELLBEING AND GUT HEALTH

✕ Relationship between gut health and cognitive function:

- The gut-brain axis plays a vital role in communication between the gut and the brain, influencing cognitive processing and brain health.
- Gut inflammation, imbalances of the gut microbiome, and gut permeability can negatively impact cognitive function and increase the risk of cognitive decline.
- There is a potential to improve cognitive well-being by nurturing a healthy gut through diet and lifestyle interventions.
- There is an association between alterations in the gut microbiome and the progression of cognitive impairment.



COGNITIVE WELLBEING AND GUT HEALTH



- **Enhancing cognitive abilities through gut-brain health:**
 - *An emerging field of research is showing the potential for targeting the gut microbiome as a strategy for promoting brain health and cognitive well-being.*
 - Consume a nutrient rich diet, including the rainbow, omega-3 fatty acids, antioxidants, other brain healthy nutrients like B vitamins.
 - Incorporate prebiotics and probiotics.
 - Prioritize movement and sleep.
- **Exercises and activities for mental stimulation- lifelong learning for cognitive stimulation:**
 - Challenging the brain through activities like puzzles, reading, chess, learning new skills, or engaging in hobbies that stimulate cognitive function.
 - Participating in social interactions, which provide cognitive stimulation and support overall cognitive well-being.



RECAP & KEY TAKEAWAYS

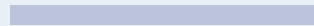
- **Gut-Brain Connection:** The crucial link between gut health and brain function, including the bidirectional communication of the gut-brain axis.
- **Gut Health and Digestion:** The significance of gut health and balanced nutrition for proper digestion, nutrient absorption, and waste elimination.
- **Lifestyle Factors:** The importance of adopting healthy lifestyle habits, such as mindful eating, regular exercise, stress management, and quality sleep, to support gut-brain health.
- **Fiber, Prebiotics and Probiotics:** The value of incorporating fiber, prebiotic and probiotic-rich foods into the diet to promote a healthy gut microbiota and support overall gut-brain health.
- **Mental and Cognitive Well-being:** The impact of gut health on mental well-being and cognitive function, and the potential benefits of nurturing a healthy gut for optimal brain health.



A dark blue rectangular box containing the text 'Q&A' in a large, white, bold, sans-serif font. The box is centered on the slide.

Q&A

Let's here your questions & takeaways!



Contact Chelsea with any questions:
Hello@KhailazWellness.com

