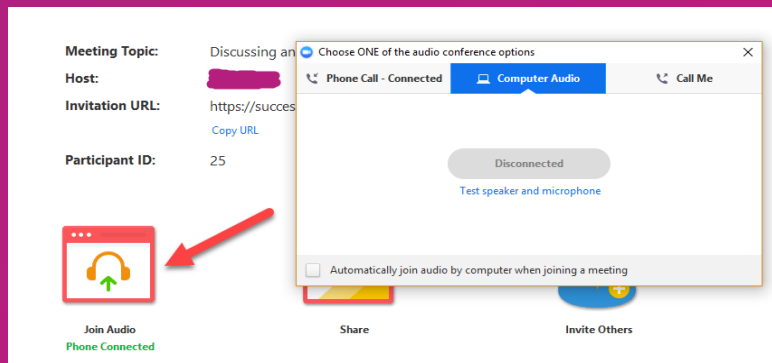




Welcome to Health Net's Monthly Wellness Webinar

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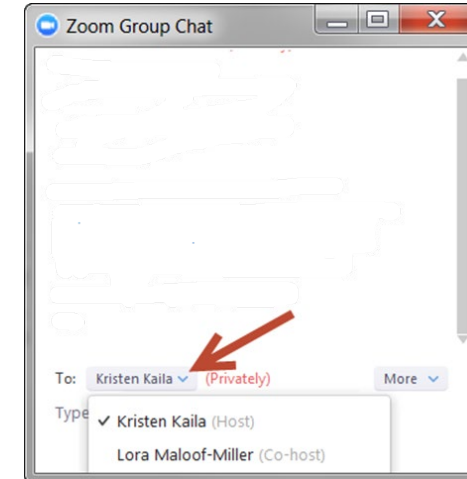
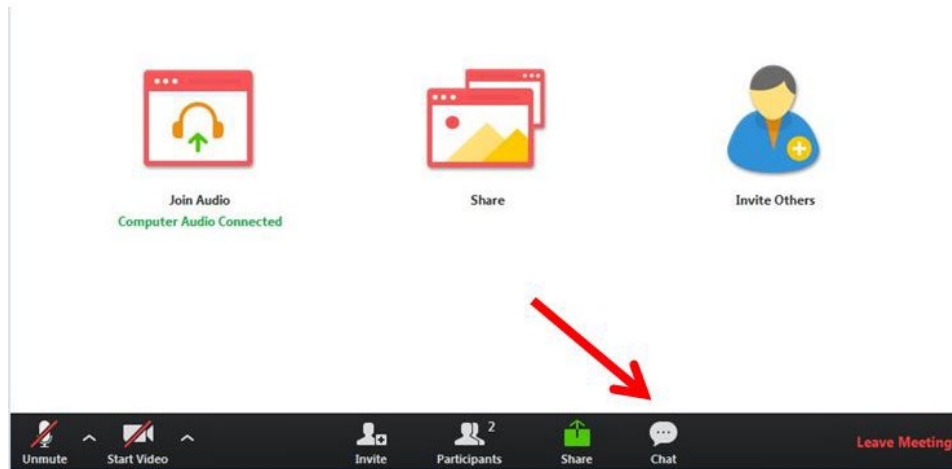
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Chat Function



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Healthy Gut, Healthy You

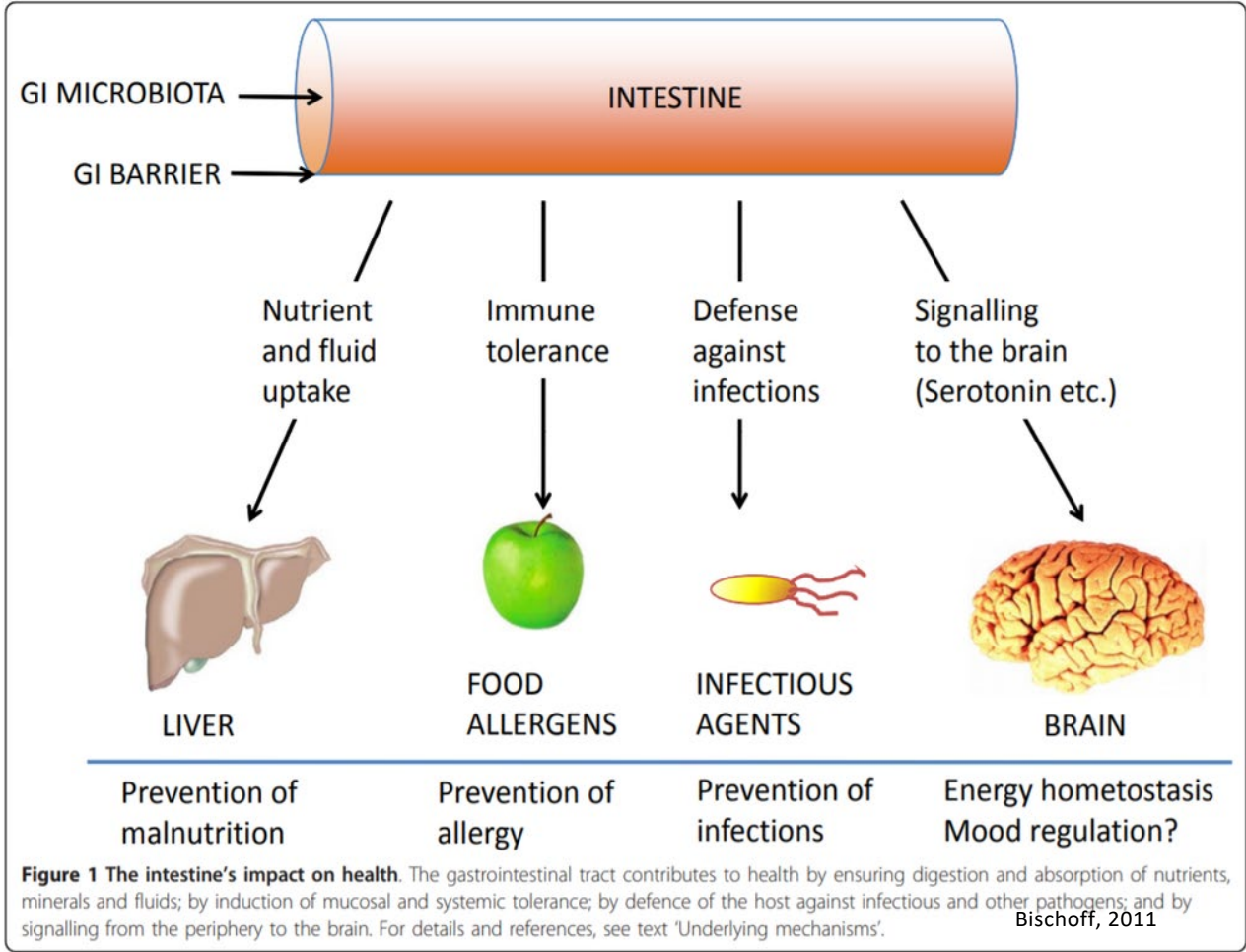
An introduction to gut health

Presented by
Claudia Graetsch-Vasquez, RDN, CDCES/CDE

Las dispositivas están disponibles en español si las solicita.

The content in this presentation is not intended to be a substitute for professional medical advice, diagnosis, or treatment. Always seek the advice of your physician or other qualified health provider with any questions you may have regarding a medical condition.

The impact of “The Gut”



What is the Gut Microbiome?



- The collective DNA of our gut microbes
 - Bacteria, viruses, protozoa, fungi
 - "Second genome"
- Most densely populated and diverse microbiota in the human body
 - 100 trillion micro-organisms, 160+ species
 - Mainly located in large intestine
- Expands the host's physiological potential
 - Extend digestive capabilities
 - Prime the immune system
 - Produce vitamins
 - Degrade xenobiotics
 - Resist colonization by pathogens
 - Produce energy for the gut wall from undigested food

What influences the Gut Microbiome?

Mode of infant delivery & feeding

- C-section vs. vagina delivery
- Breast fed vs. formula fed

Aging process

- Reduced diversity, more instances of antibiotics use

Diet composition

- High-fat Western diet: decreases lactic acid bacteria. High unsaturated fat intake increases LAB.

Geography

- Diet, food supply plays a role

Medications

- Antibiotics, PPIs

Stress

- Responds to stress-related chemical release, influence response to infection

Genetics?

- Only minor role (1.9-8.1% of microbiome is heritable)
- Certain phyla more heritable

7 Things you can do for your gut health

1. Lower your stress level
2. Get enough Sleep
3. Eat slowly
4. Stay hydrated
5. Check for food intolerances
6. Change your diet
7. Take a pre/pro/postbiotic





What are Probiotics

- "Live micro-organisms which, when administered in adequate amounts, confer a health benefit on the host" - WHO
- Ilya Ilyich Mechnikov suggested microbial ingestion improved host health in 1907
 - Lactic-acid-producing bacteria strains in yogurt enhance longevity
- Most widely used LAB strains with probiotic effects:
 - Bifidobacterium
 - Enterococcus
 - Lactobacillus



Benefit of Probiotics

Evidence exists that probiotics:

- Reduce inflammation and oxidative stress
- Reinforce intestinal barrier integrity
- Develop and modulate immune function
 - Promising treatment for allergies, gut & respiratory infections, IBS, UC, infant colic
- Synthesize vitamins

Bifidobacteria specifically associated with improved health:

- Inhibits pathogenic bacteria growth
- Produces digestive enzymes
- Represses activities of rotaviruses
- Restores microbial integrity following abx therapy

Increased proportion of **Bifidobacteria** and **Lactobacilli** represent a "healthier" microbial composition



Supplementing Probiotics

No evidence for use for healthy individuals

- C. diff, IBS, UC, atopic dermatitis
- Some research suggests it stimulates a normal immune system

Regulation is very limited

- Some risk for opportunistic infections

Probiotics are not "one size fits all," must be targeted

Do the probiotics survive?

- Mixed results
- Bacteria in stool, not in intestines

Is food better than supplementing?

- Food may lead to greater bacterial diversity



Sources of Probiotics

Produce

Fermented veggies & fruit (sauerkraut, kimchi, pickles, beets, carrots)

Dairy

Kefir (and vegan kefir), yogurt (including some vegan yogurts), sour cream, buttermilk

Proteins

Natto, tempeh

Beverages, etc.

Kombucha, kefir water, beet kvass, fermented condiments

Note: *Must contain live and active cultures.
Do not cook. Must be refrigerated.*

- **"Food" for probiotics**

- "A substrate that is selectively utilized by host microorganisms conferring a health benefit" -ISAPP

- Fermentation results in specific changes in the composition and/or activity of the GI microbiota

- **Prebiotics** are types of fiber found in vegetables, fruits and legumes.

- We cannot digest these types of fiber, but the good gut bacteria can digest them.



What are
Prebiotics

- Increase proportion of Bifidobacteria and Lactobacilli
- Increase stool bulk & frequency
 - Fermentation leads to increased bacterial mass and osmotic water-binding capacity
 - Improved transit time
- Reduce symptoms of GI discomfort
- Inulin-type fructans most studied
 - Reduces appetite, improves glucose tolerance (5-8g daily)
 - Artichoke, asparagus, chicory, onions
 - Functional foods (protein bars, powders)
- Potential effect on colon cancer risk



Vegetables

Asparagus, dandelion greens, eggplant, endive, raddichio, garlic, leeks, onion, sunchokes, jicama, yacon

Fruits

Avocado, apples, bananas, pears, berries

Dairy

Kefir, yogurt, milk, some cheese

Starches

Beans, legumes, peas, oats, wheat, barley cooked and cooled potatoes

Other

Honey, chicory root




Sources of
Prebiotics



What are Synbiotics

- "Synergistic mixtures of probiotics and prebiotics that beneficially affect the host by improving the survival and colonization of live beneficial microorganism in the GI tract of the host." -WHO
- **Health benefits claimed:**
 - Increased lactobacilli and bifidobacteria
 - Improvement of liver function
 - Improvement of immunomodulating ability
 - Prevention of bacterial translocation
- **Proposed as therapeutic agents for:**
 - Constipation
 - Lowering high fasting blood glucose levels
 - Reducing risk of post-op sepsis

- Functional bioactive compounds produced during fermentation which may be used to promote health
 - Short-chain fatty acids (SCFA), microbial cell fractions, functional proteins, etc.
- Proposed health effects of other -iotics rely on postbiotic production
- Can have direct effect on immune system & functioning of gut microbiota:
 - Inhibit growth of pathogens by lowering pH
 - Provide energy for colonocytes
 - Enhance intestinal barrier function
 - Anti-tumor and anti-inflammatory effects
 - Improve peristalsis and transit time



What are Postbiotics



SMOOTHIE

with kefir or kefir water with banana and berries



YOGURT PARFAIT

Greek or vegan yogurt with berries, nuts, and seeds or muesli



OMELET

with kimchi or sauerkraut and onions, asparagus, etc.

A vertical stack of three glass jars containing various breakfast ingredients: the top jar has purple berries, the middle one has white yogurt, and the bottom one has yellow flowers and other items. A white tablecloth is visible at the bottom.

Ideas for Breakfast



STIR FRY

Bok choy, eggplant, quinoa, salmon, and kimchi



PROBIOTIC TACOS

Baked tempeh, avocado, tortillas, and fermented sauerkraut



SALAD OR POWERBOWL

Homemade ranch dressing made with kefir or miso on whole grains + greens + veggies



Ideas for
Lunch and
Dinner



Dietary Components of Gut Health



Dietary Fat

- High fat diet (40% of calories) induces **unfavorable** changes:
 - Decreased bacteria that produce SCFA
 - Increased fecal concentrations of long-chain (saturated) fatty acids
- Lower fat diet induces **favorable** changes:
 - Increased butyrate-producing & anti-inflammatory bacteria
 - Enhanced protein degradation by gut microbiota
- **High unsaturated fat** intake associated with increased LAB such as Bifidobacteria
- Keto diet associated with reduced mass & diversity
- Lower fat diets (i.e. vegetarian) associated with higher bacterial diversity



Carbs & Fiber

- **Whole grains promote beneficial bacterial growth**
- Diets high in carbohydrate, fiber, and plant-based protein associated with:
 - High levels of SFCA
 - Less Firmicutes, more Bacteroidetes
 - Microbiota of children from EU vs. rural African village showed profound differences
- Low carbohydrate intake associated with
 - Lower levels of fecal SCFAs
 - Decreased bacterial number
- Evidence that SCFA from whole grain fermentation may influence satiety



Protein

- Animal protein-based diets:
 - Increased bile-tolerant microorganisms
 - Lower levels of CHO fermentation
- E. coli and Enterobacteriaceae do not thrive in vegan/vegetarian diets
 - Higher in carbohydrates, lower pH
- WHO: processed meat "carcinogenic to humans," consumption of red meat "probably carcinogenic to humans."
 - Processed meat: Salting, curing, fermenting, smoking, etc.
 - Red meat: beef, veal, pork, lamb, mutton, horse, goat



Other Dietary Factors

Polyphenols

- Tea phenolics repressed growth of pathogenic bacteria (including *C. diff*), less severely affected *Bifidobacterium* and *Lactobacillus* spp.
 - Stimulate the production of SCFA by gut bacteria

Artificial Sweeteners

- Excessive intake may induce glucose intolerance by altering gut microbiome



The Bottom Line

Eat a diverse diet

- Supports a more diversified microbiome
- Avoid fads & fasting

Focus on fiber (25-38+ grams/day)

Include plenty of plant-based foods

- Associated with microbial enrichment, protective elements, and satiety

Avoid high fat, high animal protein diets

- Associated with more pathogenic, less beneficial bacteria

Reduce Intake of artificial sweeteners and added sugars

- May alter microbiome

Include Regular Physical Activity

- Increases number of beneficial gut bacteria

Resources

<https://www.eatright.org/>

<https://www.myplate.gov/>

<https://health.usnews.com/best-diet>

<https://ods.od.nih.gov/factsheets/list-all/>

<https://www.heart.org/> (healthy living)

<https://www.cspinet.org/> (nutrition action)

Resources

U.S. Probiotic guide:

- <https://usprobioticguide.com/>

Books:

- Tamara Duker Freuman, MS, RD - "**The Bloated Belly Whisperer**" helping identify the many possible causes of gas, bloating, diarrhea and constipation and helping patients achieve symptom control and improved quality of life. And, "**REGULAR**", addresses the many causes of—and treatments for— bowel irregularity.

References

- Cresci GA, Bawden E. The Gut Microbiome: What we do and don't know. *Nutr Clin Pract*. 2015;30(6):734-746.
- Kolida S, Gibson GR. Prebiotic capacity of inulin-type fructans. *J Nutr*. 2007;137(11):2503S-2506S.
- Brown-Riggs C. The gut microbiota - Is it a novel contributor to the obesity and diabetes epidemic? *Today's Dietitian*. 2014;16(11):22.
- Gomes AC, Bueno AA, de Souza RGM, Mota JP. Gut microbiota, probiotics and diabetes. *Nutrition Journal*. 2014;13:60.
- Binns N. International Life Sciences Institute. Probiotics, Prebiotics and the Gut Microbiota. <https://ilsi.org/europe/wp-content/uploads/sites/3/2016/05/Prebiotics-Probiotics.pdf>. Accessed 6 June 2020.
- Kootte RS, Vrieze A, Holleman F, et al. The therapeutic potential of manipulating gut microbiota in obesity and type 2 diabetes mellitus. *Diabetes Obes Metab*. 2012;14(2):112-120.
- Kurilshikov A, Wijmenga C, Fu J, Zhernakova A. Host genetics and gut microbiome: challenges and perspectives. *Trends Immunol*. 2017;38(9):633-647.
- Rothschild D, Weissbrod O, Barkan E, et al. Environment dominates over host genetics in shaping human gut microbiota. *Nature*. 2018;555(7695):210-215.
- Turpin W, Espin-Garcia O, Xu W, et al. Association of host genome with intestinal microbial composition in a large, healthy cohort. *Nat Genet*. 2016;48(11):1413-1417.
- Dennett C. Shaping the gut microbiota. *Today's Dietitian*. 2018;20(8):16.

References

Iizumi T, Battaglia T, Ruiz V, Perez Perez GI. Gut microbiome and antibiotics. Arch Med Res. 2017;48(8):727-734.

Plaza-Diaz J, Ruiz-Ojeda FJ, Vilchez-Padial LM, et al. Evidence of the anti-inflammatory effects of probiotics and synbiotics in intestinal chronic diseases. Nutrients. 2017;9(555):1-19.

Vandenplas Y, Zakharova I, Dmitrieva Y. Oligosaccharides in infant formula: More evidence to validate the role of prebiotics. Br J Nutr. 2015;113(9):1339-44.

Dietitians in Integrative and Functional Medicine. "Probiotics and prebiotics: What you need to know." Academy of Nutrition and Dietetics. 2018. <https://integrativerd.org/wp-content/uploads/2018/07/DIFM-Probiotic-and-Prebiotic-Handout-FINAL2018.pdf>

Bischoff SC. 'Gut health': a new objective in medicine? BMC Medicine. 2011;9(24):1-14.

Zanteson L. Gut health and immunity - It's all about the good bacteria that can help fight disease. Today's Dietitian. 2012;14(6):58.

Harvard School of Public Health. "Who report says eating processed red meat is carcinogenic: Understanding the findings." The Nutrition Source. Published 3 November 2015. <https://www.hsph.harvard.edu/nutritionsource/2015/11/03/report-says-eating-processed-meat-is-carcinogenic-understanding-the-findings/>

Wan Y, Wang F, Yuan J, et al. Effects of dietary fat on gut microbiota and faecal metabolites, and their relationship with cardiometabolic risk factors: a 6-month randomised controlled-feeding trial. Gut. 2019;68:1417-1429.

Becker SL, Chiang E, Platinga A, et al. Effect of stevia on the gut microbiota and glucose tolerance in a murine model of diet-induced obesity. FEMS Microbiology Ecology. 2020;96(6).

References

- Suez J, Korem T, Zilberman-Schapria G, et al. Non-caloric artificial sweeteners and the microbiome: Findings and challenges. *Gut Microbes*. 2015;6(2):149-55.
- Heiman ML, Greenway FL. A healthy gastrointestinal microbiome is dependent on dietary diversity. *Mol Metab*. 2016;5(5):317-320.
- De Filippo C, Cavalieri D, Di Paola M. Impact of diet in shaping gut microbiota revealed by a comparative study in children from Europe and rural Africa. *Proc Natl Acad Sci USA*. 2010;107(133):14691-14696.
- Martínez I, Lattimer JM, Hubach KL, et al. Gut Microbiome Composition Is Linked to Whole Grain-Induced Immunological Improvements. *ISME J*. 2013;7(2):269-80.
- Cooper DN, Martin RJ, Keim NL. Does whole grain consumption alter gut microbiota and satiety? *Healthcare*. 2015;3(2):364-392.
- Pelto L, Isolauri E, Lilius EM, et al. Probiotic bacteria down-regulate the milk-induced inflammatory response in milk-hypersensitive subjects but have an immunostimulatory effect in healthy subjects. *Clin Exp Allergy*. 1998;28(12):1474-9.
- Becker K. "Gut check". *Bostonia*. 1 February 2018. <https://www.bu.edu/bostonia/winter-spring18/do-probiotics-work/>
- Pandey KR, Naik SR, Vakil BV. Probiotics, prebiotics, and synbiotics- a review. *J Food Sci Technol*. 2015;52(12):7577-87.
- Swidsinski A, Dorffel Y, Loening-Bauke V, et al. Reduced mass and diversity of the colonic microbiome in patients with Multiple Sclerosis and their improvement with ketogenic diet. *Front Microbiol*. 2017;8:1141.
- Wan Y, Wang F, Yuan J, et al. Effects of dietary fat on gut microbiota and faecal metabolites, and their relationship with cardiometabolic risk factors: a 6-month randomised controlled-feeding trial. *Gut*. 2019;68:1417-1429.

Questions?



Health & Wellness

Health Net's online resources that include:

- Personal Health Profile
- RealAge Test (health assessment)
- Finding and comparing doctors
- » Wellness center programs and information:
 - Weight management
 - Nutrition
 - Smoking Cessation
 - Exercise
 - Stress Management



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Decide exactly what you want to focus on.

Set specific health goals.

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 - Mindfulness



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Ongoing monthly challenges

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Steps

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Upcoming Wellness Webinar

Healthy Habits for Life

Wednesday December 13, 2023*

12pm-12:45pm pacific time

*2nd Wednesday



THANK YOU FOR YOUR TIME TODAY!
