

Dysbiosis

The gut microbiome refers to the natural bacteria living in the gastrointestinal tract (GI) that support healthy digestion, bowel movements, the immune system, inflammatory regulation, communication between the gut-brain-health. Dysbiosis refers to an imbalance of microorganisms living in the GI that impairs the functionality of the digestive tract and resultant systems. This can be a result of the overgrowth of a normally healthy microbe in the GI or harmful bacteria, fungus, parasites, or viruses. When the GIs healthy microbiota are unable to control a novergrowth or one microorganism, a chronic imbalance can develop and cause negative health outcomes.

Dysbiosis is associated with the following conditions:

- GI discomfort (diarrhea, constipation, bloating, abdominal pain, indigestion, belching, and gas)
- The presence of mucus in stool
- Carbohydrate and sugar cravings
- Food sensitivities or difficulty digesting foods otherwise tolerated (carbs, dairy, gluten)
- Fatigue, impaired cognitive processing, and mood irregularities
- Skin reactions and joint pain
- Decreased nutrient absorption and nutritional deficiencies

The following can contribute to dysbiosis:

- Regular antibiotic, laxative, anti-diarrhea medicine, proton pump inhibitor, and antacid use
- Diets rich in ultra-processed foods, added sugars, starch, and bleached grains
- Low fiber and prebiotic food intake
- Low intake of probiotics found naturally on fresh produce and in fermented food items
- Excess alcohol consumption
- Chronic stress

Associated Conditions such as candida overgrowth, irritable bowel syndrome (IBS) or inflammatory bowel disease (IBD) can contribute to flora imbalance.

Basic Nutrition Guidelines:

- Increase intake of microbe feeding prebiotics and probiotic containing foods to promote resotration of balance.
- Temporarily eliminate target foods that stimulate digestive discomfort (use GI tracking diary).
- Eat tolerable whole-foods, focusing on a variety of fresh produce and whole grains.
- Eat gut soothing meals to promote gut healing and decrease digestive discomfort.
- Minimize added sugar and alcohol intake.

Eating a Balanced Diet: a healthy microbiome is sustained through the resources available to microbes living in the GI. Diets rich in fats and protein and low in carbohydrates can contribute to dysbiosis. It is important to maintain a balanced diet, with a focus on whole-foods.

Your daily caloric intake recommendation is _____ kcal/day.

The following are the amount daily recommendations that promote a balanced intake.

- 45-65% of your total daily calories should be made up of carbohydrates.
- 10-35% of your total daily calories should be made up of protein.
- 20-25% of your total daily calories should be made up of fat.

Prebiotics are non-digestible components of foods that feed the gut microbiome, most commonly a subset of carbohydrate groups naturally found in plant-based food items.

- Asparagus
- Apples
- Barley
- Chicory root
- Beets
- Berries
- Oats
- Dandelion
- Garlic
- Avocados
- Wheat bran
- Fennel
- Onion
- Citrus
- Soybeans
- Leeks
- Tomato
- Papaya
- Legumes
- Nuts and Seeds

Probiotics are foods that contain healthy bacteria and can promote balance in the microbiome by increasing colonization of microbes that are otherwise limited in presence or underrepresented.

- Yogurt
- Pickled vegetables
- Miso
- Kefir
- Fermented vegetables
- Tempeh
- Aged cheese
- Kombucha
- Sour dough bread
- Cottage cheese

Lifestyle Guidelines

- Maintain adequate fluid intake, your daily recommendation is _____.
- Maintain dental hygiene.
- Prioritize sleep, getting an average of 7-8 hours of good sleep every night.
- Engage in regular exercise and light movement through walking and yoga.
- Reduce stress through mindfulness practices such as yoga, meditation, tai-chi, and journaling.

Resources

- Davani-Davari, D., Negahdaripou, M., Karimzadeh, I., et al. Prebiotics: definition, types, sources, mechanisms, and clinical applications. *Foods*. 2019;8(3):92. doi: 10.3390/foods8030092
- Armata, N. Dysbiosis. *Osmosis*. Updated January 6, 2025. <https://www.osmosis.org/answers/dysbiosis>
- Hajela, Neerja, G. Nair, and Sarath Gopalan. "From Gut Microbiota to Probiotics: Evolution of the Science." *Health Benefits of Fermented Foods and Beverages* (2015): 591-606. Accessed June 9, 2015
- Hawralek, Jason A., and Stephen P. Meyers. "The Causes of Intestinal Dysbiosis: A Review." *Intestinal Dysbiosis* 9.2 (2004): 180-97. Print.
- Morris M. Dysbiosis. The Root of Health Website. Available at: <http://www.therootofhealth.com/dysbiosis/>. Accessed May 17, 2015.
- Pick M. Digestion and Dysbiosis. Women to Women Website. Available at: <https://www.womentowomen.com/digestive-health/digestion-and-dysbiosis/>. Accessed May 17, 2015.
- Low Sugar Fruits. New Health Guide Website. <http://www.newhealthguide.org/Low-Sugar-Fruits.html>. Accessed May 31, 2015.