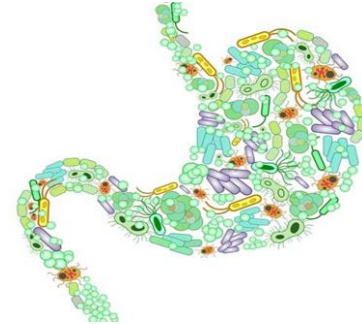

NUTRITION AND GUT MICROBIOME

August 2018

What is the Microbiome?

A **microbiome** refers to microorganisms, their genomes, and the surrounding environmental conditions. **Microbiota** is an assemblage of microorganisms present in a defined environment. The human gut microbiota consists of approximately 100 trillion microbial cells, and it **impacts metabolism, nutrient absorption and immune function.**

The genes present in the microbiome of our gut are responsible for functions that are essential to the correct functioning of our gut.



Gut Microbiota and Health

Dysbiosis is defined as qualitative and quantitative changes in intestinal microbiota, their metabolic activity and their distribution. **Recent research studies have linked dysbiosis with a number of diseases that are both inside and outside of the intestine:**

- Irritable Bowel Syndrome
- Crohn's Disease
- Ulcerative Colitis
- Celiac disease
- Colorectal cancer
- Non-Alcoholic Fatty Liver Disease
- Diabetes

There is a lot of research that needs to be completed to help us understand how to optimize the health of our gut microbiota.

ROLES OF THE MICROBIOME:

- **PROTECTION AGAINST PATHOGENS**
- **DIGESTION OF CARBOHYDRATE**
- **MODULATION OF IMMUNE SYSTEM**
- **PRODUCTION OF ESSENTIAL VITAMINS**

Healthy Microbiomes

Preliminary research does illustrate that our diet can impact the composition of our microbial community. For example, high intake of simple carbohydrate and artificial sweeteners both demonstrated metabolic abnormalities, as did a diet low in fruit, vegetables, and fish.

Probiotics are healthy bacteria that naturally live in our digestive system. Some foods that we eat contain resistant starches that act as food for probiotics. These resistant starches are called **prebiotics**. When you eat foods that have prebiotics, you can increase your own probiotic bacteria. Wide arrays of probiotic supplements are available for prevention and management of various conditions.

FOODS WITH PREBIOTICS

VEGETABLES/FRUITS:

ASPARAGUS, BANANAS, GARLIC, JERUSALEM ARTICHOKE, LEEKS, ONION, TOMATOES

GRAINS: BARLEY, RYE, WHOLE GRAINS

ROOTS: CHICORY ROOT, DANDELION ROOT, ELECAMPANE ROOT

There is great variability from clinical results that use different formulations, doses and types of probiotics, and much more research is required to gain a clear understanding of the benefits of probiotic supplements. The products listed after each condition has evidence from randomized trials to improve symptoms for the particular condition in adults:

- **Constipation**
 - Activia, BioGaia
- **Irritable bowel syndrome**
 - Align, VSL #3, TuZen, UltraFlora Intensive Care
- **Prevention of antibiotic associated diarrhea**
 - Bio K, Culturelle, Digestive Care Travel Probiotic, Florastor
- **Ulcerative colitis (adjunct to standard therapy)**
 - Mutaflor, Visbiome, VSL#3
- **Weight management**
 - Ultraflora Control

Use of probiotics is considered safe, however make sure the product you choose has a Drug Information Number (DIN), natural product number (NPN), or homeopathic number (DIN-HM) and talk to your doctor before starting the product.

TAKE HOME POINTS FOR A HEALTHY MICROBIOME

1. PROBIOTICS ARE MICROORGANISMS THAT WORK TO KEEP THE COLON HEALTHY BY BALANCING GOOD AND BAD BACTERIA.
2. PROBIOTICS MAY HELP WITH THE SYMPTOMS CAUSED BY IRRITABLE BOWEL SYNDROME, ULCERATIVE COLITIS, CONSTIPATION, AND DIARRHEA FROM ANTIBIOTIC USE.
3. SOME FOODS SUCH AS YOGURT, MILK, AND CHEESE HAVE PROBIOTICS IN THEM; PROBIOTIC BACTERIA ARE OFTEN GROWN USING MILK PROTEIN. PROBIOTICS ARE CONSIDERED SAFE TO EAT UNLESS YOU HAVE A MILK ALLERGY.
4. INDIVIDUALS WHO DO NOT CONSUME PROBIOTIC SUPPLEMENTS OR PROBIOTIC FOODS CAN STILL HAVE A HEALTHY DIGESTIVE SYSTEM BY FOLLOWING A HEALTHY DIET THAT INCLUDES FOODS WITH PREBIOTICS.
5. IF YOU WOULD LIKE TO TAKE A PROBIOTIC FOR A HEALTH CONDITION, TAKE AT LEAST 100 MILLION CFU/DAY OF THE PARTICULAR PROBIOTIC STRAIN WITH PROVEN RESEARCH TO IMPROVE THE SYMPTOMS OF YOUR CONDITION.
6. IF THINKING OF TAKING A PROBIOTIC SUPPLEMENT, YOUR PHYSICIAN OR DIETITIAN CAN HELP YOU CHOOSE THE PRODUCT AND DOSE THAT IS RIGHT FOR YOU.



<http://www.thehealthsite.com/news/inner-angels-inner-demons-scientists-continue-to-explore-healthy-gut-bacteria-afp/>

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