

Intestinal Flora and Health

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The intestinal tract in most humans is a haven for trillions of bacteria. There are far more bacteria in one's intestines than there are cells in one's body. These bacteria are a vital part of our body. As we are learning more about how the intestinal flora interact with the body, we are discovering that that balance and types of bacteria make a difference in health.

There are hundreds of species of bacteria in the gut of an average person, but every person has a unique combination. This makes it difficult to find a perfect standard for what is normal and what is a problem. Although we have much to learn about how the intestinal flora functions, is quite clear that it has a massive impact on various aspects of health.

One way the intestinal flora affects health is through direct effects on the digestive system. The bacteria in the intestines affects how quickly food passes through, and problematic or overgrown bacteria can increase inflammation or even cause disease in the intestines themselves. When the intestinal flora is imbalanced, people may have symptoms such as constipation, diarrhea, cramping, or more serious conditions including colitis, arthritis, and autoimmune disease.

The intestines have a high concentration of immune cells and tissues. This means the entire immune system is affected by intestinal health. Helpful bacteria are associated with a healthy immune system, while problematic bacteria are associated with problems in immune system function like allergies, cancer, diabetes, and even obesity.

The bacteria in the intestines affect the metabolism of food and medications. They help us break down foods, transform and digest vitamins, and influence how quickly we absorb nutrients. Problematic bacteria can generate toxic waste products. There have been several studies recently in the news that report increased risk for heart disease associated with intake of fats like lecithin and a nutrient found in meat called carnitine(1). It appears that certain intestinal bacteria can transform these particular nutrients into toxic substances. These findings may indicate the problem is not the nutrients, but instead the interaction of the nutrients with intestinal bacteria!

When there is a derangement in the balance of intestinal flora, it is called dysbiosis. Normal bacteria can become overgrown, can grow in the wrong parts of the intestine, and/or abnormal organisms can become established in the gut. Each of these scenarios can lead to well-defined and easily identified illness. However, they may also cause symptoms and issues that are less specific and not obviously related to the digestive tract.

Antibiotics and other medications can cause dysbiosis. Stress, problems with the immune system, and an unhealthy diet are also culprits. There is a growing amount of evidence linking dysbiosis to health problems. Some researchers and clinicians believe that when there is a chronic health problem, there is also a problem with the balance of bacteria in the intestines.

Children with Autism and other neurodevelopmental concerns frequently have digestive issues. Recent animal studies have demonstrated that lack of a particular bacteria in the intestines can lead to symptoms consistent with autism. When the animal was fed the missing bacteria, the animals stopped have the autistic-like symptoms(2). This is an animal study and not a human study so we must be careful to not jump to too many conclusions, but this is a promising finding. Furthermore, there are many other studies and reviews that correlate dysbiosis, intestinal inflammation, and digestive concerns with autism and neurodevelopment concerns in humans (3, 4, 5).

The health of the intestinal flora can be evaluated in several ways. A trained clinical can perform a careful history and physical exam which may give helpful information. There are laboratory tests that can determine aspects of intestinal health, including the types and numbers of certain bacteria. People who have a chronic health problem or issues with digestion may benefit from an evaluation of their intestinal flora.

Balanced intestinal flora can be cultivated., and healthy food choices are crucial. When people enjoy a diet rich in whole foods (not preprocessed, from a box, or a can), they are not only feeding their body well, they are also feeding the healthy bacteria. Whole foods are rich in fiber, fats, and complex carbohydrates. These nutrients are vital to a human body as well as the human intestinal flora. When people eat foods high in 'bad' fats, low in fiber, and containing complex chemicals like preservatives and artificial ingredients, unhealthy bacteria and imbalanced growth are encouraged.

Eating probiotics foods with healthy bacteria such as yogurt, kimchi, kefir, or sauerkraut can support the intestinal flora. There are interesting studies on the health benefits of eating fermented foods. One study showed that diabetics who ate one serving of yogurt a day saw improvement in their fasting blood sugar, waist size, and HA1C, even when they did not exercise more or change other parts of their diet(6)!

There are many probiotic supplements that are available over the counter. Unfortunately, these are not regulated and often do not have the amounts or types of bacteria listed on the packaging. Some even contain harmful bacteria. These products may be a waste of money, or worse, unhealthy. An experienced clinician can recommend probiotics that are well tested, and are proven to be clinically effective.

The health of your intestinal flora affects your entire body. By eating whole foods and living a balanced lifestyle, you can support the health of your intestinal flora. If you face an unavoidable stressor such as a round of antibiotics, or have a chronic condition, you should consider addressing the health of your intestines with a qualified clinician.

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