

PFA Tips

Autism and the Digestive System

Hippocrates, whose wisdom is over 2,000 years old and is considered the father of modern medicine, quoted: "All disease begins in the gut." Through modern scientific research we now know not all diseases begin in the gut, but many health issues are either directly or indirectly related to the health of the digestive system. Gastrointestinal problems are among the most common conditions associated with autism.

The Gastrointestinal (GI) Tract

The digestive tract, also known as the gastrointestinal (GI) tract, begins at the mouth, includes the esophagus, stomach, small intestine, large intestine and rectum, and ends at the anus. The entire tract is about 30 feet. Maintaining the health of this very large structure is extremely important. The digestive tract's function is not exclusively for digestion to provide the body nutrition. The digestive tract is also a large component of the immune system. With the combined function of the digestive tract's role of feeding the body and protecting the body from infection, its influence on other systems and functions in the body are widespread and extremely important. Recent scientific research has shown how much the gut and brain work together, so much that the gut has been considered a "second brain".

Autism and the Digestive System

Gastrointestinal problems are among the most common conditions associated with autism. These problems can include chronic constipation, diarrhea, and other inflammatory bowel conditions. The Centers for Disease Control (CDC) has estimated children with autism are 3.5 times more likely to suffer from chronic diarrhea or constipation. Other research has associated strong links between gastrointestinal symptoms and autism severity. Considering the relationship between the health of the digestive tract and its association with autism, optimizing digestive health of an individual with autism should be paramount.

The Digestive System Barrier

The lining of the digestive tract participates in many important functions that include: breaking down food for digestion and the extraction of nutrients, protecting against foreign invaders (pathogens), and eliminating waste materials and toxins. Degradation of the digestive tract can have a serious effect on its ability to perform these functions allowing unhealthy pathogens into the bloodstream as well as improperly digested food that could be recognized by the immune system as "foreign" and cause the immune system to react. This issue is referred to as "leaky gut syndrome" and literally means the gut's barrier is allowing things to leak into the rest of the body (partially digested foods, pathogens, toxins) as well as allowing things to leak out (blood).

The Digestive System Biome

Another important aspect of the digestive system is the "environment" that exists within the digestive tract. The digestive tract is home to over 100 trillion microbes (about 3 pounds). Gut microbes (also known as gut flora) are the "ecological community" of organisms that live within the digestive tract. These microbes play a major role in the digestive system and the immune system. They assist in the digestion of food, aid in vitamin production, participate in weight management, and communicate with the neurological system. This neurological system connection is being researched to show a direct connection between the digestive system environment to brain function and behavior. The Journal of Psychiatric Research in a recent publication



states: "Gut microbes are part of the unconscious system influencing behavior. Microbes majorly impact on cognitive function and fundamental behavior patterns. Disorganization of the gut microbiota can negatively impact mental health."

Digestive System Inflammation

Inflammation is often viewed as a response in the body to an injury (such as a sprained ankle) or a fever response to an infection (such as the flu). In fact, inflammation is a healthy response by the body to deal with a wide variety of issues and imbalances in many different systems in the body. After the initial inflammatory response, the body should return to normal. Problems develop when the inflammation response does not return to normal. This "chronic inflammation" can continue at a low level and has also been termed "silent inflammation". Low level, chronic, or silent inflammation often occurs when the body is stimulated to produce inflammation by any variety of factors. These factors can include poor food choices, lack of healthy sleep, and stress.

continued on page 2



Digestive Tract, Digestive System Biome, and Inflammation

The proper feeding, functioning, and health of the entire digestive system should be considered in relation to the multiple issues associated with autism. Common health problems in individuals with autism can often be related to the digestive/immune system. These include chronic constipation, chronic diarrhea, and gastro-esophageal reflux disease (GERD). When considering the new research showing the gut-brain connection, the health of the digestive system needs to be considered in maintaining the health of the neurological system, optimizing brain function, and behavioral health.

Nutritional Recommendations

Some basic dietary recommendations for optimizing digestive system function, maintaining a healthy gut biome, and managing inflammation include:

- minimizing the consumption of refined sugars and grains.
- drinking water as the primary beverage.
- consuming foods high in soluble fiber.

These recommendations will help maintain the digestive tracts healthy barrier, “feed” the digestive system biome, and manage inflammation.

Nutritional supplement recommendations include:

- a quality multi-vitamin to ensure a comprehensive intake of vitamins and minerals.
- vitamin-D to address any deficiency and maintain the immune system.
- omega-3 fatty acid (fish oil) to address any deficiency and health of the gut microbes.
- magnesium for neurological function.
- probiotic to help feed the microbiome.

These supplement recommendations all have benefits related to managing inflammation as well.

Always consult your health care provider for specific information regarding diet and supplementation to ensure the best possible results.

Pathfinders for Autism does not endorse any products or services.

Written By Lynn Shumake, MS, PD,
Owner of VitaScript Compounding
Pharmacy & Nutrition Center

© 2016 Pathfinders for Autism