

Autism and ADHD Prevention

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Building A Healthy Digestive System

Introduction

A strong, well-functioning digestive system is critical for optimal health in all people. It provides a vital link between good nutrition and the ability to detoxify harmful chemicals as illustrated in the triangle of prevention. This model of prevention points out the need to (1) eat good food and receive necessary nutrients, (2) have a functioning digestive system, and (3) avoid and remove toxins. If your body is not able to absorb nutrients, it doesn't matter that you eat only organic whole foods. If your digestive system is not able to eliminate toxins, it doesn't matter that you try to avoid toxins. Your body will just retain old toxins and hang onto new ones.

Identifying any digestive problems that you may have (reflux, irritable bowel, constipation, and diarrhea) is important. The ideal time to do this is before pregnancy. Pregnancy will only exacerbate digestive ills such as constipation and heartburn. This chapter describes common digestion problems and how to treat them effectively.

At the end of the chapter, I describe a typical scenario of a two-year-old boy with both behavior issues and digestive problems. His digestion problems clearly affect his behavior. I illustrate how the digestion of the mom affects her child. Understanding the correlation between proper digestion and behavior is critical for both the prevention and the treatment of autism.

**Before pregnancy is the best time
to identify and treat any digestive problems.**

Common Digestion Problems

Problems with digestion, including the disorders detailed below, are extremely common in our population for multiple reasons:

- The current standard American diet (SAD) is high on fast foods, soda, caffeine, and alcohol, but low on vegetables and fiber.

- Processed and packaged foods.
- Antibiotics destroy the good bacteria in our intestines and lead to many digestive complaints. Antibiotics are common medicines and prevalent in our food supply.
- Our stressful lifestyles and eating on the run are not helping us relax and enjoy our food, which is needed for proper digestion.

Some of the common digestion problems include:

Gastroesophageal Reflux. Gastroesophageal reflux, also known as reflux or heartburn, is extremely common. It occurs when undigested food from the stomach comes back up into the esophagus. This causes pain, burning, and even vomiting in children. Medicines, such as Zantac, Prilosec, and Omeprazole, are prescribed to block stomach acid (hydrochloric acid or HCl) and reduce pain. They do not stop the actual reflux or the undigested food from coming into the esophagus. These medications treat only the symptoms, not the cause.

However, stomach acid is present for a reason, it is needed to break down proteins, kill infectious organisms in the stomach, and signal enzymes to be released. As a result, blocking this acid creates multiple new digestive problems. In fact many people do not have enough stomach acid and actually have reflux symptoms caused by lack of acid instead of too much acid.

Irritable Bowel and Constipation. Symptoms caused by poor elimination, such as irritable bowel syndrome (IBS) and constipation, are common. IBS is a syndrome with alternating constipation and diarrhea, gas, bloating, and abdominal pain. According to traditional Western medicine, IBS has no “known” cause. People with IBS will often have a history of antibiotic use and have an imbalance between the good bacteria and other organisms in their gut.

In addition, constipation due to our Western diet is extremely common, even in children. It can cause multiple symptoms including problems with toxicity. I have even seen children in the emergency room with severe stomach pains that were caused only by constipation!

Inflammatory bowel disorders, such as Crohn’s disease and ulcerative colitis, also affect children with autism. These disorders differ from IBS in that the resultant inflammation can be determined by blood tests and biopsies of the intestine, while a general diagnosis of IBS is based merely on symptoms.

Diarrhea. Recurrent loose stools or diarrhea is another pattern of improper elimination that is frequently seen, especially in children. If diarrhea is persistent, a person can lose nutrients through

their stools or be unable to absorb what they need from their food. Toddler diarrhea is often diagnosed as a normal condition in pediatric practices. Yet, five to ten stools a day is not a normal pattern for anyone.

Children with autism often have severe problems with their digestion. A toddler with autism who has multiple watery stools a day should not be dismissed as having toddler's diarrhea. Most commonly children with autism will have one of two patterns: (1) diarrhea, with up to ten stools a day, or (2) constipation, with sometimes only one stool every couple of days. It is not uncommon for children with autism to also have reflux, IBS, and even severe inflammatory bowel disease such as Crohn's disease or ulcerative colitis.

Many digestive symptoms are now considered normal. However, having abdominal pain and a bloated belly shouldn't be a normal part of living. Nor should constant gas and burping. Most people, although embarrassed and frustrated by these symptoms, simply accept these digestive upsets as part of life. But these symptoms are not normal, and we should expect better from our digestive system.

Evaluation of Digestion

Luckily there is good news if you suffer from digestive problems: The causes can be identified with various tests and then effectively treated. Before pregnancy is a key time to detect and treat digestive issues. The resultant treatments will make pregnancy less symptomatic. They will also benefit your child by giving the growing immune system, digestive system, and nutritional stores a necessary jump start.

Digestive Tests. Some women are healthy and may not require digestive tests. However, depending on your symptoms and medical history, I recommend the following three tests (Table 5.1):

1. Complete digestive stool analysis (CDSA). Generally, stool samples are tested for overt infections such as *Salmonella* or *Giardia*. A CDSA, however, checks to see how well a person is digesting food and if there is a bacterial imbalance in the intestines. I need to know the amounts of good bacteria (both lactobacillus and bifidus), the amounts of bacteria that are overgrown or should not be there at all, and if there is a possibility of overgrown yeast (often *Candida*). I also want to know if the patient is adequately breaking down food. If not, then I know there are

problems with the amount of acid in the stomach and enzymes in the intestines. Enzymes aid digestion by breaking down proteins, fats, and carbohydrates from our food.

Not many people like the idea of collecting their stool and sending it to the lab. But a stool sample offers a lot of very important information, especially about people who have been on antibiotics, suffer from yeast infections, or have any chronic digestive complaints such as constipation or IBS.

2. Urine organic acid test (OAT). I order the urine OAT if I am most concerned about an imbalance in the intestines due to either yeast or bad bacteria. These organisms release toxins in the form of acids, which are eliminated through urine. A holistic or functional medicine practitioner needs to order the test and interpret the results before treatment can be given.
3. Antibody protein (IgG) food allergy panel. Many digestive problems lead to a poor breakdown of proteins. As a result, it is common for people to have delayed food sensitivities or allergies mediated by an antibody protein (IgG) to specific foods. The IgG food allergy panel is a blood test that can identify these harmful reactions.

People may react to food in many ways in addition to delayed food reactions mediated by IgG antibodies. Immediate reactions to food, such as swelling of the throat are more obvious to people and often identified earlier in life. Delayed reactions are more common and since the reactions don't happen directly after eating the food, correlation between food and symptom is difficult. Other parts of the immune system may cause food reactions and specialized tests that look at mast cells and white blood cells are available. A trained health care practitioner would be helpful at this point, to figure out which tests to order if the symptoms and patterns are confusing.

Table 5.1: Recommended Digestive Tests

Test	Key Findings	Reasons to Order	Recommended Labs*
Complete digestive stool analysis (CDSA)	<ul style="list-style-type: none"> • Good bacteria • Imbalanced bacteria • Imbalanced yeast • Enzymes • Inflammation 	Antibiotic use, yeast infections, IBS, constipation, diarrhea, inflammatory bowel disease	<ul style="list-style-type: none"> • Diagnos-Techs, Inc. • Doctors Data • Genova
Urine organic acid test (OAT)	Elevated acids from yeast and bacteria	Antibiotic use, yeast infections, IBS, constipation, diarrhea, inflammatory bowel disease	<ul style="list-style-type: none"> • Great Plains • Genova • US Biotek
Antibody protein (IgG) food allergy panel	Elevated IgG levels for specific foods	Antibiotic use, yeast infections, IBS, constipation, diarrhea, inflammatory bowel disease, eczema, asthma, chronic congestion or runny nose, chronic headaches, migraines, behavior issues in children	<ul style="list-style-type: none"> • US Biotek • ALCAT • Elisa/ACT • Great Plains • Genova <p>(labs above also measure other types of food immune reactions)</p>

*These are just some of the labs I use, although there are many others. A complete list of recommended laboratories is given in Resources.

Probiotics: Pass Them on Down

Probiotics are the good bacteria that live in our digestive system. Without them, people develop more problems with digestion, allergies, and infections. We first acquire good bacteria from our mother during birth and then nursing. As an adult, maintenance of these bacteria happens primarily through cultured food sources such as yogurt and kefir or supplements.

Unfortunately, most people do not have enough probiotic bacteria in their intestines. Modern manufactured foods lack these essential bacteria, and prescribed antibiotics kill both the bad and good bacteria. As a result, yeast and unwanted bacteria take over and create numerous digestive symptoms.

During Birth and Nursing. Good bacteria that live in the intestines also live in the vaginal canal. This is important because infants travel head first through the canal during birth and ingest these bacteria into their own system. Inside the uterus, babies have sterile intestines without bacteria. The infants need to ingest the mom's good bacteria to prime their own digestive and immune systems. Infants also acquire good bacteria from nursing and close contact with their mothers.

Of course, babies born via Cesarean section (C-section) do not travel down the vaginal canal and therefore do not receive good bacteria from the mother. A higher percentage of children with autism and chronic digestive symptoms are born via C-section than children from the general

population. Reasons for this increase are unclear. However, C-sections are sometimes necessary and can save the lives of both mothers and infants so should not be avoided if medically indicated. If a child is delivered by C-section, both the mom and infant need to be supplemented with probiotics beginning after delivery.

Factors Affecting Maternal Probiotics. Good bacteria cannot be passed along to the infant during birth and nursing if the mother does not have good bacteria during pregnancy or delivery. There are several reasons why a woman would lack good bacteria: (1) Her body has an inadequate amount of probiotics before or during pregnancy, or (2) an infection was treated with antibiotics, which destroy good bacteria. A maternal imbalance of bacteria or yeast must be treated before pregnancy if possible.

Bacterial Infection. A severe imbalance of bacteria in the intestine is called small bowel bacterial overgrowth. This disorder can cause digestive symptoms and poor absorption of nutrients. The imbalance can be treated with probiotics and herbs such as grapefruit seed extract, caprylic acid, or garlic. If the combination of probiotics and herbs is ineffective, antibiotics may also be prescribed. However, it is imperative to prevent yeast from overgrowing during antibiotic treatment.

Yeast Imbalance. A yeast imbalance is treated with high doses of probiotics in addition to one or more of the above-mentioned herbs. An anti-yeast prescription medicine, such as Nystatin or Diflucan, may also be given. Because sugar causes yeast to grow, it is also important for the mother to decrease her sugar intake including concentrated fruit sugar in processed juices.

Benefits of Probiotics to Newborns. It should be apparent by now that all women need one thing before pregnancy regardless of their medical history. That one thing is probiotics! A woman with adequate probiotics positively impacts the development of the infant's digestive and immune systems. Newborns need good bacteria right away. The time immediately following birth is a critical period for developing strong digestive and immune systems.

**Probiotics help prevent
digestive problems.**

Treatment of Digestion Problems

It is impossible to alleviate digestive problems, including reflux, irritable bowel, constipation, and diarrhea, when eating unhealthy food. You can't absorb nutrients from foods that don't have nutrients in the first place! Good, clean, and (if possible) organic food is essential. Avoiding pesticides also means that the body doesn't have to work as hard to get rid of toxins. Table 5.2 lists recommended treatments for the disorders described below.

Reflux. Treatment for reflux involves decreasing heartburn pain and healing the lining of the esophagus and stomach. Most medications prescribed for reflux may alleviate the symptoms, but the medicines also stop production of stomach acid, which is needed to break down proteins and assist digestion.

Alternative treatment options, such as colostrum, glutamine (an amino acid), deglycerized licorice, and aloe vera, decrease the symptoms of reflux without stopping stomach acid. They also decrease inflammation so the digestive tract can heal. These products are available at local health food stores, from health care practitioners, and on the internet.

To effectively reduce reflux, people often need to make some dietary changes, slow down their eating, and use other digestive support such as probiotics and the alternative treatments listed above.

Irritable Bowel Syndrome. The symptoms of IBS often clear when the imbalance of bacteria and yeast is corrected (known as dysbiosis treatment). Diarrhea may be handled in the same way. For all digestive complaints, adding enzymes and sometimes stomach acid (HCl) may help break down food. The digestive stool test can identify problems with food breakdown before or during supplement replacement. However, sometimes treatment can be empiric, meaning that you must try a few different treatments before finding a solution to the problem.

Table 5.2: Recommended Treatments for Digestion Problems

Treatment	Recommended Treatment Options/Brands*	Recommended Amounts
Probiotics: Combination of several lactobacillus and bifidus strains	<ul style="list-style-type: none"> • Brands: Ther-biotics, Mindlinx, HLC, Theralac, Threelac, VLS#3 • Cultured foods: Kefir, Kombucha 	Daily recommendations: <ul style="list-style-type: none"> • Initially: 5 billion CFU • Maintenance: 20 billion CFU • Treatment: 100 billion+ CFU
Healthy organic food	All healthy organic food	Maintain a healthy weight
Regular elimination	<ul style="list-style-type: none"> • Healthy diet, fiber, nutritional oils, water • Magnesium citrate, sulfate, glycinate • Vitamin C 	<ul style="list-style-type: none"> • Every day! At least daily: <ul style="list-style-type: none"> • 200-600 mg • 1,000 mg
Digestive enzymes**	Manufacturers: Houston, Integrative Therapeutics, Kirkman, Klaire, Master Supplements, Orthomolecular	With each meal: <ul style="list-style-type: none"> • 1-2 capsules
Stomach acid (HCl)**	Treatment options (use only one): <ul style="list-style-type: none"> • Betaine HCl • Raw apple cider vinegar • Swedish bitters • Gentian root extract 	With each meal: <ul style="list-style-type: none"> • 1 capsule • ½ tsp • ½ tsp • 100 mg
Healing the intestine**	Treatment options (use at least one or as needed): <ul style="list-style-type: none"> • Colostrum • Glutamine • Deglycerized licorice • Aloe vera 	Daily recommendations: <ul style="list-style-type: none"> • 500-3,000 mg • 1,000-3,000 mg • 500-1,500 mg • Juice: 2-8 oz • Capsules: 2-6

*I frequently use the brands and manufacturers listed, although there are many other reputable products and companies. For a complete list, see Resources.

**Not all women/children will need these treatments.

Note: CFU = colony-forming units

Elimination. Regular elimination is important to rid the body of toxins. The cause of an elimination problem must first be identified before appropriate treatment can be started. If constipation is an issue, a goal is to have at least one daily stool per day. Adding more fruit, vegetables, fiber, nutritional oils (olive, coconut, or cod liver oil), and water to the diet is an important and good first step.

I often recommend nutrients to help relieve constipation. Magnesium is a primary mineral that causes relaxation of the smooth muscle including the intestines. The levels of magnesium in the body are inversely proportional to the levels of calcium. Because calcium is more common in the Western diet, our magnesium levels are often low. Milk of Magnesia has been used for constipation for a long time and can be a very effective treatment. The main problem with Milk of Magnesia is that it does not contain the most absorbable form of magnesium. Magnesium glycinate, magnesium citrate, and ionic magnesium are better absorbable forms to help nutrient stores and constipation. Too much magnesium leads to diarrhea and backing down to the level before loose stools begin is a good estimate of how much magnesium your body needs.

Vitamin C in high doses can also get the bowels moving. Our bodies need vitamin C, and it is considered very safe. Similar to magnesium, too much vitamin C may cause diarrhea. The dose before diarrhea begins is also a good estimate of vitamin C needs. And again, probiotics will help the intestines. I am hoping that by the end of this chapter, you will think of probiotics anytime you think of digestion!

Clinical Example: Jonathon, Age 2

The following story illustrates a pattern that I see frequently in children with autism and digestive problems. You will see that the mother-child health link is strong and that the mom's digestive status, both at the onset of and throughout pregnancy, has a very large influence on her baby's digestion and overall health.

“My son Jonathon hasn't gained weight in 6 months,” the mother told me. “He has this terrible diarrhea every day and always seems cranky. My son's first doctor said he has toddler's diarrhea and not to worry about it. But Jonathan isn't getting better, and now I am worried because he isn't growing anymore. I have also noticed his behavior is getting worse with more temper tantrums and acting out”

I ask more about Jonathan's birth and how he was fed as a baby. According to mom, he had a normal birth and was a good "nursing" for the first year of life. When asked further if he was a fussy baby, she said, "Well, he was colicky, and he did spit up his food a lot. His doctor said it was reflux and gave him some medicine for it. But I can't remember the name of the medicine. It didn't help very much, so I stopped it."

I then ask whether Jonathan had a lot of infections and was taking any medicines. "After he was one year old and stopped nursing, he started to get ear infections all the time. He was put on antibiotics, but he never seemed to get better. After that, he started getting diarrhea and being fussy. Now every time I take him to the doctor, he never seems to gain any weight."

There is a strong connection between the health of a mother and child, so I begin asking about the mom's health. "I have no medical problems—or nothing serious." When asked if she had ever taken medications, the mother replied, "Well, I did take some kind of antibiotics for acne several years ago. And when I was working, I was really stressed and had heartburn. So I had some medicine for that, which helped the pain."

I ask about her pregnancy and whether she was sick at all. "I did have some yeast infections, but doesn't every pregnant woman? I also had some bacteria that they found right before the baby was born." Was that group B strep, I ask? "That sounds right. They gave me some medicine in an IV to get rid of it when he was born, some type of antibiotic I think."

This example demonstrates a chain of events that began with the mom and unknowingly was passed down to her infant. Because the mother was treated with long-term antibiotics, the good bacteria in her intestines were destroyed. This led to vaginal yeast infections, a sign that she also had an overgrowth of yeast in the intestines. The reflux was treated with an acid blocker even though the mom may have had a decrease in stomach acid. This leads to more digestion problems. At delivery, the IV antibiotics further destroyed any good bacteria in the mother's body. So Jonathan did not receive any good bacteria during birth or during nursing.

Without good bacteria, Jonathan wasn't able to digest his food well. Most likely, he had pain, which led to colic and reflux. The reflux was treated with an acid blocker, which limited his ability to break down proteins, resulting in further pain and discomfort. Jonathan's body then began to react to unbroken-down proteins. This caused delayed food reactions, especially following the introduction of a large quantity of dairy products. The delayed food reaction to dairy, in turn, caused

chronic nose congestion, leading to fluid in the ears and frequent ear infections. Antibiotics were given for these ear infections, which destroyed any good bacteria he had. A resulting overgrowth of bad bacteria and yeast caused diarrhea. These bacteria and yeast released toxins and caused pain leading to behavior issues such as temper tantrums. In children with autism, behaviors seen can include stimming behavior (ex. repetitive hand motions) and poor sleep patterns.

Although this is a complicated history, I see this scenario frequently. It is easy to see how one thing leads to another. If the mother had a good intake of probiotics before, during, and after pregnancy and if Jonathan was given probiotics after birth, a lot of these problems could have been avoided. Even a simple intervention of probiotics can lead to a substantial decrease in a chain of problems.

Summary

Hopefully by now, it is clear to you how important good digestion is to good health. Sometimes improving your health can be as easy as beginning to supplement with good probiotic bacteria or even adding more cultured foods into your diet. If you are one of those women who have been suffering with chronic digestive problems, a trained health care practitioner may be vital in helping you resolve your problems.

With this chapter, I also hope that the connection between your digestive health and your infant's physical and emotional health is clearer. Understanding that digestion and behavior are connected is critical for both the treatment and the prevention of autism. I very rarely have a child with autism that I do not need to treat for digestive problems in order for them to get better. I am convinced that better digestion in you and your baby will help prevent autism.

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