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Autism Diets and Nutrition

Providing Health Benefits for Many Children with ASD

BY JULIE MATTHEWS, CNC

Diet can help some children with autism. Autism is a whole-body condition; therefore, it is imperative for your child's health that you understand the connection between what is happening in your child's body and brain and what you are feeding him or her daily. It is also important to champion your child's condition by noting every healing strategy that is working—for some children, changes in diet, additions of special vitamins and minerals, and other nutritional considerations can improve their condition.

Leading autism clinicians recognize that the bodies of children with autism are unique and require specific care, including enzymes for digestion, medical treatment for yeast infections, attention to digestive issues, special dietary requirements, nutrient and fatty acid supplementation, behavioral therapy and more. Many practitioners recommend multifaceted treatment plans that balance physician-recommended approaches and nutrition-centered autism diets.

Some parents hesitate to try autism diets because they don't know if special diets work, why they may work or how they work. When parents correctly implement specific autism diets, improvements in gastrointestinal problems (including diarrhea and constipation), language, learning, focus, attention, eye contact, behavior, sleep difficulties, toilet training and skin rashes/eczema have been observed.

As a Certified Nutrition Consultant, I have been supporting children with autism for almost a decade, specializing in the science and application of autism diets, nutrition and supplementation. My life's work is dedicated to the millions of kids worldwide who live with autism and their parents who are passionately committed to helping their children find hope and healing.

I joined the field of autism nutrition after significant study, training and collaboration with parents, physicians, nutritionists and educators who have hands-on experience with autism diagnosis, treatment, research and nutrition. Relying on my experience and research, in this article I will explain the benefits of autism-specific diets and why they should be considered when implementing your child's treatment plan.

A Child's "Gut": Autism Symptoms Begin Here

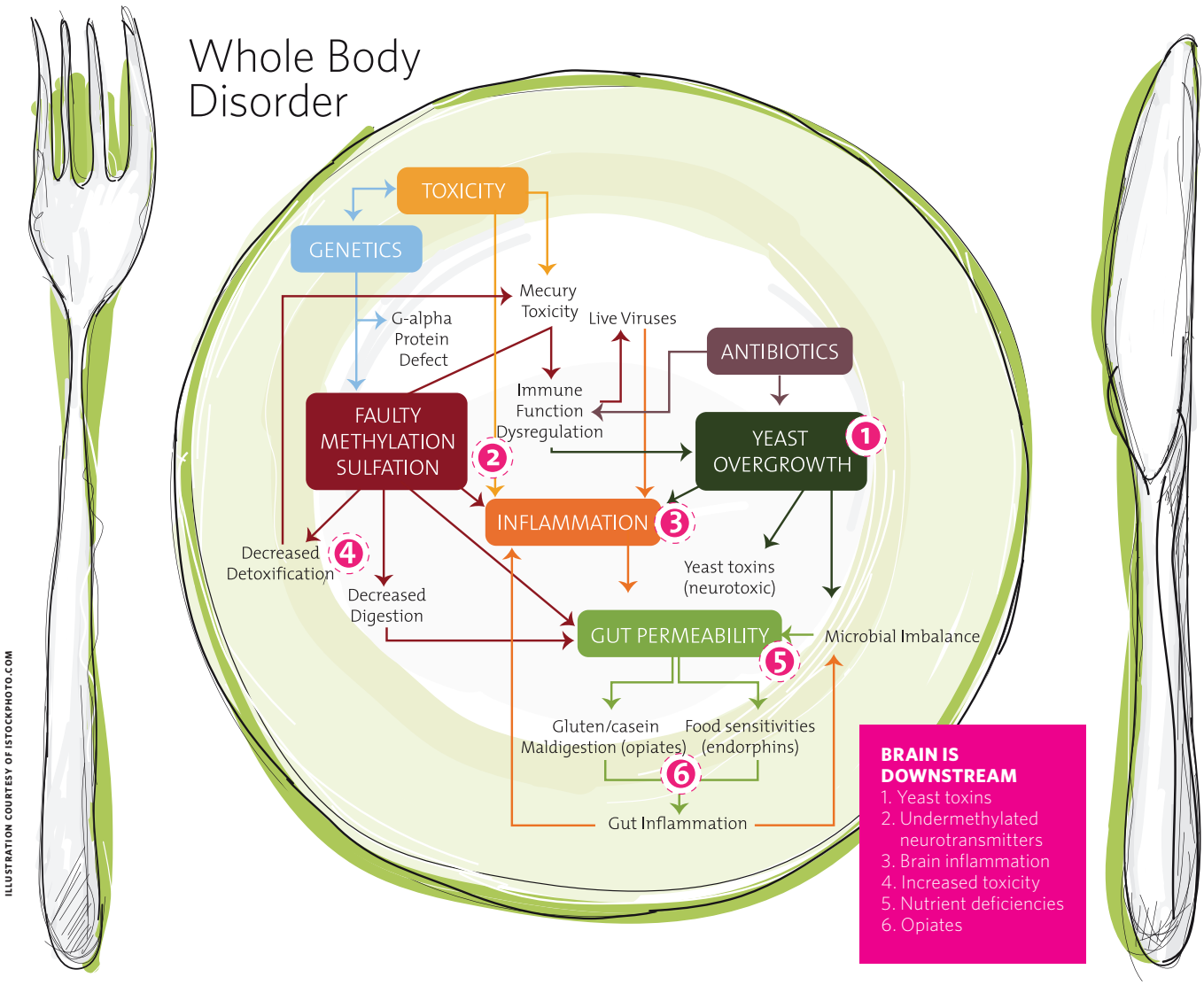
The common physical symptoms of children with autism often include diarrhea, constipation, bloating and GI pain, frequent infections, sleeping challenges and inflammation/pain. For many children with autism, when things go awry in the "gut," negative behavioral changes and cognitive problems occur or are exacerbated. For many, food intolerances, imbalanced biochemistry and digestive problems are at the core of these symptoms. These weaknesses in physiological functioning can be directly tied to biochemical processes that are affected by diet—the absence of requisite nutrients and/or the presence of offending substances. For many children, altering food choices and adding supplementation affects these processes, promotes healing and can improve autism symptoms.

Why Diet Can Help: Autism as a Whole-Body Disorder

Historically, autism was considered a "mysterious" brain disorder, implying that it begins and ends in the brain. Through the array of common physical symptoms observed and the breakthrough work of many autism researchers, a more appropriate "whole-body disorder" (that the brain is affected by the biochemistry generated in the body) perspective of autism has emerged. Martha Herbert, M.D., Ph.D., the Autism Society's Director of Treatment Guided Research, who was one of the first to describe autism this way, refers to the brain as "downstream" from the body's functioning, as illustrated in the figure below.

On the left side of the chart are the complex set of factors that influence autism: toxins, environmental factors, digestive health and inflammation. The right side indicates the effects these factors can have on the brain. Imbalanced biochemistry can affect the brain and the symptoms of autism in the following ways:

- When there is yeast overgrowth in the body, toxins enter the bloodstream and make their way to the brain where they



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can cause symptoms such as spaciness, foggy thinking and drunken behavior.

- When the biochemistry of methylation is not working properly, neurotransmitters cannot be methylated (and therefore are not "activated") as they need to be, increasing the likelihood of anxiety, depression, ADHD and sleeping issues.
- Inflammation in the gut and brain can be caused by toxins, food sensitivities, or bad bacteria or yeast in the gut. This can cause pain that may lead to behaviors such as self-injurious activity, leaning over furniture, eye poking and head banging.
- When detoxification is poor (proven common in autism), toxins from food and the environment (such as salicylates, artificial ingredients, MSG, mercury and aluminum) can build up and act like drugs on the brain, causing irritability, aggression and brain/cellular damage.
- When digestion is poor and the gut is too permeable (leaky gut), the nutrients that are supposed to go through the digestive system cannot be absorbed properly. This leads to nutrient deficiencies, which can affect all cellular function, including poor brain function and immune system failure.
- Opiates can be created from inadequate breakdown of gluten, casein and soy, leading to symptoms of opiate excess, such as foggy thinking, insensitivity to pain, opiate addiction and withdrawal, and irritability.

According to Hippocrates, "All disease begins in the gut," and this certainly proves true with autism. As you can see, digestion and gut health affect both the brain and autism's physical symptoms. Food interacts with the gut constantly and can have a profound impact on these symptoms. Removing the offending foods that contribute to inflammation, trigger immune response (food sensitivities) and increase toxicity, and adding foods and supplements that support a healthy ecosystem and provide needed nutrients can ease symptoms.

Understanding that gut and brain are connected helps explain *why* autism symptoms and overall health can be improved through a diet that supports digestion/GI health and biochemistry, although each individual will have different responses to the addition of one of several autism diets and nutritional changes.

GI health and biochemistry are partners. Biochemistry involves cellular processes that require energy, nutrients and enzymes to function, and proper digestion is required to obtain and absorb the nutrients needed for these processes. If there are insufficient nutrients, an inability to digest and absorb nutrients, a limitation on a particular nutrient or an inability to convert a nutrient to the active and usable form, biochemistry can go awry.

By supporting digestion and biochemistry through diet and nutrition, we can often improve the symptoms of autism. Following are several examples of how food and nutrients can improve the health of the gut and the whole body's biochemistry, and positively affect the symptoms of autism.

How to Begin: Dietary Modifications to Improve Leaky Gut and Gut Inflammation

Improving digestion, reducing inflammation and healing the gut are important steps in overall health and healing. Behavior, language, eye contact and skin rashes are a few of the areas that can improve. The following dietary changes are a good place to start:

- **Remove foods that inflame the gut.** Gluten, casein, soy, corn and eggs are common offenders. The exact foods to remove will depend on the individual; however, gluten- and casein-free diets are among the most popular and effective. Sugar and refined oils also contribute to inflammation.
- **Add foods that heal the gut.** Foods such as ginger and turmeric reduce inflammation. Fish oil, flax seeds and walnuts contain omega-3 fatty acids that have anti-inflammatory properties. Fermented foods help heal the gut. Butyric acid is a short-chain fatty acid (often produced by good bacteria from the consumption of soluble fiber) found in butterfat and ghee that helps nourish the intestinal lining.
- **Include foods that supply beneficial bacteria.** Fermented foods, such as non-dairy yogurt, young coconut kefir and cultured vegetables, help supply good bacteria that reduce inflammation and create an environment that is healing.
- **Add foods that increase beneficial bacteria levels.** Prebiotics are foods, often high in soluble fiber, that support good bacteria and increase levels in the

gut. These foods include: asparagus, bananas, beans/legumes, chicory root, garlic, honey, kefir/yogurt, leeks, onions and peas.

Nutrient Deficiencies

Is your child a picky eater? Due to sensory issues, many children on the autism spectrum dislike the tastes and textures of certain foods; therefore, nutrient deficiencies are common. Specific nutrients are required for complex biochemical processes, and nutrients can only be digested and absorbed through food and supplementation when the GI tract is functioning well. In addition to boosting digestion, it is important to get a wide variety of nutrients through foods. Some ways to boost nutrient intake include:

- **Increase the quality and digestibility of food.** Boost the amount of nutrient-dense foods, such as vegetables, in the diet. For ideas on increasing variety, see the list of nutrient-dense foods below. Soaking and fermenting grains increases digestibility.
- **Sneak in vegetables for picky eaters.** Pureeing organic vegetables and adding them to meatballs, smoothies, pancakes, muffins and sauces is a great way to disguise them. Try juicing to get concentrated nutrients that are easy to digest—making ice pops from organic juices or smoothies is a good way to serve nutrient-dense vegetables and fruits to kids.
- **Add supplementation.** It can be difficult for a child with autism to get the required therapeutic levels of nutrients through food. Adding vitamins, minerals, fatty acids or amino acids can be helpful in boosting needed nutrients. Introducing enzymes that aid with digestion of foods and probiotics can supply beneficial bacteria. Calcium supplementation is particularly important when dairy is removed from the diet.

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Yeast Overgrowth

Yeast is a harmful organism that can affect energy level, clarity of thought and intestinal health. Yeast overgrowth is often triggered by antibiotic use. Yeast overgrowth creates gut inflammation and decreases gut function. The following dietary practices help rid the body of yeast overgrowth:

- **Remove sugars.** Sugars feed yeast, contributing to yeast overgrowth. Reduce the amount of cookies, muffins and other sugar-rich treats . Even sugar in fruit, especially dried fruit and fruit juice, can be a problem for some.
- **Remove yeast-containing foods.** Bread, grapes, plums, aged meats and cheeses, and vinegars can feed yeast and should be removed.
- **Reduce or remove starches.** Like sugar, carbohydrates feed yeast. Reducing refined carbohydrates that convert to sugar rapidly and have little nutritional value decreases the foods yeast have to feed on. Some people choose diets such as the Specific Carbohydrate Diet (SCD) that eliminates starches that can feed yeast, such as potatoes, corn and gluten-free grains.
- **Add probiotic-rich foods.** Fermented foods contain live beneficial bacteria that crowd out yeast and support a healthy internal environment; thus, adding probiotic supplementation is recommended.

Toxicity and Poor Detoxification

When detoxification is not working optimally or is overburdened by pre-existing toxins, avoiding additional toxins from food is important. These chemicals can cross the blood-brain barrier and affect the brain, creating hyperactivity, aggression, irritability and sometimes self-injurious behavior. Ways to remove toxins include:

- **Avoid food additives.** Artificial ingredients are very difficult for the body to process, so avoiding artificial colors, flavors, preservatives and MSG is crucial.
- **Avoid toxins in food supply and meal preparation.** Prevent the introduction of further toxins into the body by avoiding aluminum and plastic in cooking. This

includes aluminum pans and aluminum foil, as well as storing and microwaving in plastic. Minimize or eliminate canned foods and drinks.

- **Eat organic.** Eat high-quality foods that are free of pesticides and hormones, such as organic produce, grass-fed meat, and pastured eggs and chickens. Non-organic chicken can contain arsenic. Eating organic foods avoids consumption of pesticides, other harmful chemicals, GMOs (genetically modified organisms) and hormones. Organic foods also provide higher nutrient content.
- **Add foods that support the liver.** Antioxidants, such as beta carotene; vitamins A, C and E; B vitamins, including folic acid; and selenium support liver detoxification. Sulfur-rich foods, such as broccoli, cabbage, cauliflower, collard greens, kale and Brussels sprouts are especially beneficial in liver detoxification processes.. Spices, such as cinnamon and turmeric, support the liver. Glutathione is a powerful antioxidant, and adequate levels are supported by the consumption of asparagus, watermelon, broccoli, papayas, avocados and the herb, milk thistle, as well as through nutritional supplementation.

Poor Methylation and Sulfation Biochemistry

Medical studies have shown that methylation, transsulfuration and sulfation are one set of biochemical pathways that do not function optimally for many children with autism. These pathways—involved in the processes of detoxification, heavy metal elimination, digestion, immune function, cellular/metabolic function, gut integrity and microbial balance—can be supported, as follows, by avoiding certain substances and supplying needed nutrients.

- **Remove phenolic foods.** When the biochemical processes of methylation, transsulfuration or sulfation are not functioning well, limiting phenols and salicylates is important. Artificial phenols occur in petroleum-derived additives, such as artificial colors, flavors and preservatives. Even naturally occurring phenols, called salicylates, present in organic and non-organic foods such as grapes, raisins, apples, berries, almonds, honey and more, can create a variety of behavioral, emotional and physical symptoms.
- **Improve methylation and sulfation through supplementation.** Supplementing with nutrients that can support these biochemical pathways is important. Methyl-donors and methylation/transsulfuration support, such as vitamin B12, folate, B6, DMG/TMG, magnesium and zinc, are important supplements to consider. Determining which supplements are needed and adding them can be helpful to regulating the biochemistry and reducing autism symptoms.

I hope that parents and practitioners can see the possibilities for positive influence and realize that diet can help autism. Diet is a powerful personal tool; it has few downsides and is accessible to everyone. With diet, parents have greater control over choices that can have immediate impact on a child's daily life. For some children, improvements can occur right away as offending foods/substances are removed from their diet.

Anyone can implement a new diet. A good way to start is to remove artificial ingredients, reduce sugar, avoid gluten and casein, add fermented foods or probiotics, and include more vegetables. As you move forward, an autism practitioner with diet and nutrition expertise can help determine the best dietary principles for your child, help get you out of a food rut and ensure your child is getting adequate nutrition. They can also provide food and meal suggestions as you become fully compliant with the new diet. Many online autism diet support groups, books and blogs are available to help families.

Whether you reach out to a nutrition consultant or start on your own, getting good nutrition, avoiding problematic ingredients and supporting good digestion are practices that will benefit everyone in the family.

About the Author JULIE MATTHEWS, CNC

Julie Matthews, CNC is an internationally respected Certified Nutrition Consultant specializing in autism spectrum disorders. She provides diet and nutrition intervention guidance backed by scientific research and applied clinical experience. She is the author of the award-winning autism diet and nutrition guide Nourishing Hope for Autism *and* Cooking to Heal *autism nutrition cookbook. Julie is a Defeat Autism Now! practitioner, conference educator and nutrition faculty member. For more information, visit NourishingHope.com.*