**ADHD and Autism**

There are an estimated 1.5 million people in the U.S. living with autism and ADHD — which is characterized by impulsiveness, hyperactivity, and the inability to focus — is another neurological disorder on the rise in young children, affecting an estimated 3 percent to 5 percent of U.S. school-aged kids.

Researchers continue to speculate about abnormalities in brain development; diets stripped of essential fatty acids, magnesium, and other crucial nutrients; and increased toxin exposure, which can be particularly detrimental to those children who are genetically built with an impaired ability to detoxify their systems. Researchers don't believe diet alone causes these conditions. But a growing number of physicians and families are adding diet interventions to their treatment plans because evidence shows that many children with autism and ADHD have problems digesting and absorbing nutrients from food.

**The gut-brain connection**

The gut-brain connection in autism and ADHD isn't yet fully understood. However an increasing number of experts believe that many children with these conditions have food sensitivities and are unable to digest the proteins such as casein and gluten in specific foods. Signs of food sensitivity include gastrointestinal problems, chronic congestion, frequent ear infections, or cravings for specific problem foods. Lab tests can help identify some sensitivities.

Casein (a protein found in dairy products), gluten (a plant protein found in wheat, rye, and other grains), and soy trigger the most problems. Many researchers believe that when these foods are not completely digested, residue remains in the digestive tract in the form of peptides — short chains of amino acids. If the intestinal lining becomes too permeable or “leaky” — as is the case, theoretically, in many autistic and ADHD kids — these peptides get absorbed into the bloodstream, creating a morphine-like effect that can affect neurological functions, such as speech and auditory processing, and cause a child to zone out or withdraw from others.

In some kids, food sensitivities produce symptoms that mimic signs of ADHD, including hyperactivity and the inability to focus. When kids eliminate trigger foods, their symptoms decrease substantially.

**The GCFC diet**

A gluten- and casein-free (GFCF) diet improved his gastrointestinal and behavioral symptoms and even led to increased language and social function. Nixing soy — another common problem food — can help too.

I advise an “elimination and challenge” approach, where one food is removed at a time and the child is monitored for symptoms. If no improvement is seen within one month, the food is reintroduced. The best test is the child's own body. Because gluten and casein are among the most common intolerances, I recommend eliminating foods that contain these first, followed by soy, corn, yeast, and other commonly reactive foods, if necessary.

**Solving nutrient deficiencies**

Fixing nutrient deficiencies can also have positive effects for kids with autism or ADHD. Because of their inability to properly digest food and absorb nutrients, many children with these disorders may be low in zinc, magnesium, B vitamins, iron, essential fatty acids, and other nutrients. These deficiencies, can affect everything from behavior to what a carrot tastes like.

Lack of magnesium, for instance, can cause hyperactive-like behavior, sound sensitivity, and irritability. Zinc deficiency — a result of a defect in zinc metabolism that's common in autistic children and can be exacerbated by diets high in white flour and other high-glycemic foods — can change a child's sense of taste and smell. This helps explain why autistic children are notoriously picky eaters, often willing to eat only macaroni and cheese, yogurt, and other bland food. Poor taste perception won't improve until zinc levels rise. Feeding zinc-rich foods such as seafood, whole grains, beans, and cashews can help, but diet may not be sufficient to meet all of the child's zinc needs. Supplementation is usually the quickest way to get zinc into picky eaters.

Because autistic and ADHD kids are often very finicky eaters, improving and diversifying their diets may help. Focus first on protein-rich breakfasts, replacing foods made with refined flour and sugar with whole grains and fruits and vegetables, and serving water in place of soda or juice. By making these diet changes kids get crucial nutrients and balance their blood sugar levels — which is especially important for those prone to hyperactivity, inattentiveness, and mood swings.

# Supplements for autism and ADHD

## Antioxidants

Vitamin C reduces harmful oxidants in the body and helps even out levels of dopamine, a neurotransmitter commonly out of balance in children with autism and ADHD. Vitamin E boosts immunity and prevents oxidation of EFAs, which benefit neurological function.

**Daily recommended dose:** vitamin C, 250-2,000 mg; vitamin E, 100-400 IU

## Calcium

Malabsorption and special dairy-free diets can cause calcium deficiency.

**Daily recommended dose:** 400-1,000 mg

## Essential fatty acids (EFAs)

The omega-3 fats docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA) boost brain development and function, and are often low in children with autism and ADHD. Gamma-linolenic acid (GLA), an important omega-6 fat found in evening primrose and borage oils, may also benefit kids with these disorders.

**Daily recommended dose:** 1,000 mg DHA; 1,000 mg EPA; 80-240 mg GLA

## Magnesium

Crucial to protecting the body from heavy-metal overload, magnesium is often low in children with behavioral, cognitive, and mood disorders. Deficiency can cause depression, poor appetite, and muscle spasms.

**Daily recommended dose:** 100-500 mg

## Probiotics

Intake of healthy bacteria increases immunity and helps heal bowel disorders and other gastrointestinal problems associated with autism and ADHD.

**Daily recommended dose:** 10-30 billion organisms, in capsule or powder form

## Zinc

Vital for proper cognitive function, zinc is typically deficient in autistic children. Supplementation boosts immunity and improves taste perception.

**Daily recommended dose:** 20-60 mg

Source: Kenneth Bock, MD, author of Healing the New Childhood Epidemics (Ballantine, 2007).

# Other diet recommendations for autism and ADHD

## Avoid additives, preservatives, and artificial colors

Nitrites and nitrates (preservatives found in bacon, hot dogs, and lunch meats), sorbic acid (found in cheese, frosting, and dried fruits), dyes (especially yellow dye #5), MSG (found most commonly in some Chinese restaurant food, chicken broth or flavoring, and bouillon), and aspartame (an artificial sweetener) can exacerbate symptoms for some children with ADHD and autism. A 2007 Lancet study found that artificial colors and preservatives increase hyperactivity in young children.

## Eliminate trans fats

Beyond their negative cardiovascular and neurological health effects, the hydrogenated fats found in processed and fried foods intensify toxic accumulation and cell function problems for children with autism and ADHD.

## Go organic

Limit a child's toxic load — which is especially important for kids, such as those with autism or ADHD, who have a decreased ability to handle toxins — by choosing foods free of pesticides and other chemical residues.

Sources: Kenneth Bock, MD, author of Healing the New Childhood Epidemics (Ballantine, 2007), and Dana Laake, RDH, MS, LDN, co-author of The Kid-Friendly ADHD and Autism Cookbook (Fair Winds, 2006).

# Parent resources

[Autismkey.com](http://Autismkey.com) is a parent-support website created by Gary Greaves that includes a national database so parents can locate others in their area living with autism.

[Autism.com](http://Autism.com), the website of the Autism Research Institute, offers detailed summaries of the major biomedical treatments currently used to help autistic children, including the gluten- and casein-free diet and vitamin/mineral supplementation.

**The Kid-Friendly ADHD and Autism Cookbook** **(Fair Winds, 2006) by Pamela J. Compart and Dana Laake** includes hundreds of recipes and tips for eliminating gluten, casein, and other common allergens.

**Healing the New Childhood Epidemics** **(Ballantine, 2007) by Kenneth Bock** helps parents learn more about important nutritional changes and supplements for children with ADHD and autism, and the benefits of heavy-metal detoxification.