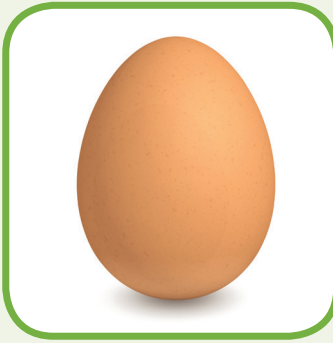


Your child's diet may be affecting how he acts—and could lead to diagnoses like ADHD. Find out how to help him get the nutrients he needs.



## the nutrition-behavior connection

●●●● “Starting at about age 3, Jameson had a lot of irritability and aggression,” says Elizabeth Lohner, of her now 7-year-old son. “He had a hard time interacting with others, and his energy level was so high that he had problems focusing and listening to directions,” she remembers. “It felt as though we couldn’t have a family dinner without Jameson throwing something; and practically every day I got called by his school because he would have a problem. It got so bad that I decided to pull him out of preschool.”

That wasn’t all. Since Jameson was a baby, he would have inexplicable fainting spells several times a month—and occasionally these episodes would lead to seizures. When Jameson was a year old, a particularly bad seizure landed him in the hospital. After a round of extensive tests, doctors were no closer to a diagnosis. “Jameson did not have epilepsy, heart problems, or brain problems, so all the neurologist could do was give us a gel form of valium to pull Jameson out of the seizures,” says Lohner.

By the time Jameson was about 4½ years old, the Lohners, who have five sons and live in Flower Mound, Texas, were at their wit’s end. “We, as a family, could not live like that anymore. We were desperate,” says Lohner. They sought help from a pediatrician who specializes in attention deficit hyperactivity disorder (ADHD). That doctor diagnosed Jameson with ADHD, depression, and anxiety, and prescribed medication. “We tried drugs such as Focalin and Ritalin for ADHD, and other medications for anxiety. We tried eight different medications in total—each for the allotted time—and none of them worked, but they all had crazy side effects, making him either more agitated and aggressive or more emotional,” notes Lohner.

Finally, about a year and a half later, Lohner’s primary care pediatrician urged her to take Jameson to an osteopathic doctor named Mary Ann Block, D.O. Her approach to Jameson was different than the Lohners had experienced before. Block, author of *No More ADHD, 10 Steps to Help Improve your Child’s Attention & Behavior Without Drugs!*, ordered blood work from a specialized lab that tested for food allergies, food sensitivities,

by Rachel Rabkin Peachman

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—Kelly Dorfman,  
nutritionist and author

and vitamin deficiencies. She also took stool samples and tested for bacterial infections in the intestines, and fecal metals, among other things. “We gave it a fair chance, even though the testing was expensive,” says Lohner, and the results were illuminating. “We learned from Dr. Block that when there is a severe behavior issue, there is often an underlying physical reason for it.” Block determined that Jameson had a sensitivity to sugar (and too much sugar and carbs in his diet) that caused his system to release a rush of energy-producing adrenaline, creating bouts of hyperactivity and inattention. Jameson also had an intestinal parasite, and a sensitivity to dairy and gluten that had damaged his intestines and was making it difficult for his body to absorb the nutrients he needed. He was deficient in magnesium and some B vitamins. As a result, Jameson was uncomfortable and irritable.

Under Block’s supervision, Jameson began an elimination diet—a process that involves removing certain foods and then reintroducing them after a period of time to test for reactions. In Jameson’s case, he was put on a sugar-free, gluten-free, and dairy-free diet that consisted of unprocessed whole, organic foods, lean protein, no artificial additives (no junk food), and supplemental magnesium, vitamin B, and probiotics (to help repair his digestive tract). “The diet has changed his life. And I do mean changed his life,” says Lohner, who noticed a difference in Jameson after two weeks on the plan, and a full-on transformation after about a month. “Jameson has completely turned into a new person. He still has that spark in his eye, he’s still mischievous, and fun, but he can also be reasonable and calm and experience emotions. He’s just sweet and *himself*—and he hasn’t passed out since he began the program!” she gushes.

#### ●●●● DIET CAN MAKE A DIFFERENCE

While Jameson’s case may be remarkable, it is not rare. According to Bill Sears, M.D., and author of over 30 books on childcare, a deficit in nutrition is frequently misdiagnosed as ADHD in children. “Many a parent has brought their child to me believing he has ADD or ADHD, and after taking a nutritional history, I often tell them that their child doesn’t have ADD, he has NDD,” says Sears, referring to “nutrition deficit disorder,” a term he coined. “In my experience, many children described as having ADD or ADHD lose this label once their NDD is treated.”

A nutritional deficit—caused by a food allergy or sensitivity, an intestinal disorder, or unhealthy eating habits—is not only linked to behavioral issues, it’s also associated with a host of other problems. Kelly Dorfman, a nutritionist and author of *Cure Your Child With Food*, attributes the increasing rates of behavioral disorders, obesity, and diseases such as Type 2 diabetes in children in large part to the typical American diet that is chock-full of artificial additives, pesticides, and sugar—and lacking in vital nutrients. The good news? “Many common childhood ailments are avoidable or can be dealt with nutritionally before they disrupt proper development or lead to more complex medical problems,” says Dorfman. Whether you’re interested in alleviating your child’s chronic condition or you simply want to provide him with the best nutrition you can, there are steps you can take to help improve your child’s diet and overall well-being.

#### ●●●● AN ALTERNATIVE APPROACH

The role of nutrition in preventing and combating chronic conditions is often overlooked by conventional medicine, and there is limited funding for studies in this area, notes Carolyn Dean, M.D., N.D., a medical doctor, naturopathic doctor, and author of over 30 books, including *The Magnesium Miracle*. Yet research shows that parents are consistently seeking out alternative forms of treatment for behavioral conditions such as ADHD in an effort to avoid medication, says Andrew Adesman, M.D., chief of developmental and behavioral pediatrics at Steven and Alexandra Cohen Children’s Medical Center of New York, and spokesperson for the American Academy of Pediatrics (AAP). Because of this increased interest in holistic approaches to managing ADHD, research on nutrition and its effect on behavior is becoming more popular. But Adesman warns that “where there is no research to support dietary interventions, patients and consumers need to be cautious.” Therefore, when considering any changes to your child’s diet (such as those discussed on the next page)—as well as any changes to medication—be sure to check out all available evidence and consult a knowledgeable medical professional first.

## THE NEW NUTRITION KNOW-HOW

The following strategies are showing promise in affecting behavior in some children. Though not every tactic will yield results for every child, increasing your awareness of your child's diet may help improve behavioral issues and physical health. "If you don't have the proper fuel to keep your body running, you won't be able to function and focus," says Louise Goldberg, R.D., pediatric dietitian and owner of An Apple A Day Nutrition Consulting, in Houston.

**WATCH FOR REACTIONS TO FOOD.** "The effects of allergies on focus and behavior can be extreme," says Block, who sees this in her practice. Research also backs this up. Two separate studies in the journal *Annals of Allergy* found that children who were experiencing allergic rhinitis (seasonal allergies) were less capable of learning compared with children who were not suffering from allergies—most likely due to the fact that they felt uncomfortable and irritated, which can make it difficult to focus. With food allergies there is an added factor in the equation: "Whenever a child has a food allergy or is consuming something that his body does not like, this can cause intestinal inflammation and damage, which can affect the absorption of the nutrients that child needs to focus—and can even manifest as symptoms similar to ADHD," says Goldberg. In effect, food allergies and sensitivities can come at children with a one-two punch—first making them agitated, and next robbing them of nutrients that might rein in their behavior, as was the case with Jameson.

It follows, then, that if your child is showing problematic behavior (particularly symptoms of ADHD), it may be worthwhile to look out for any food allergies or sensitivities—or to consider an elimination diet with the help of a medical professional. Though dietary therapies are not recognized by the AAP as effective treatment for ADHD, a 2012 review in *Pediatrics* found that dietary restriction *can* benefit some kids with ADHD. "I'm not against elimination diets for young children with ADHD, but I caution parents that the research on the diets is not strong," says Adesman. "Still, if parents feel that their child is set off by a food, there is no reason why they can't

explore it and include their pediatrician in the discussion." Foods that are commonly allergenic include dairy (which contains the protein casein), wheat (which contains the protein gluten), soy, and eggs.

**SKIP SUGAR.** Researchers have long debated whether or not sugar affects behavior. Many studies offer conflicting conclusions. Block, for one, believes that there is no question that sugar can cause hyperactivity in kids.

How? Eating a lot of sugar and refined carbohydrates—and not enough protein—causes high sugar (glucose) levels in the blood. The body reacts to this sugar spike by releasing a flood of insulin to carry the

glucose (which the body uses as energy) to the rest of the cells in the body. The problem arises, explains Block, when a lot of glucose is suddenly taken from the blood, because this can cause a sugar "crash." Having low blood sugar can cause irritability and inattention, and it can also signal the body to release adrenaline (the fight or flight hormone), which can give children excess energy, inattention, and mood swings—especially in children who are particularly sensitive to sugar.

While some experts refute sugar's link to hyperactivity, most medical professionals do agree on this: Children do not need added sugar, which offers no nutritional value and is linked to weight gain. Childhood obesity has more than doubled in the past 30 years, and more than one third of children and adolescents in this country are overweight or obese, according to the Centers for Disease Control and Prevention (CDC). The abundance of added sugar in our diets can also lead to a deficiency in vital nutrients.



"When kids eat highly processed, refined sugary foods, these unhealthy foods replace healthy foods that are needed to help their brains develop," says Goldberg.

To keep your child's blood sugar stable, his energy steady, his waistline in check, and his nutrient levels high, give him frequent balanced snacks and meals consisting of a healthy protein and fat (like a hard-boiled egg) and a fiber-filled complex carbohydrate (like an apple). What about sweet treats? Your best bet is to offer real fruits or foods sweetened with stevia, which is a natural sweetener that doesn't spike insulin levels and doesn't have the chemical makeup of artificial sweeteners, says Dean. Worried your kid will protest a diet sans sugar? Though it may be tricky to manage at first, if your child is sensitive to sugar, the benefits of a sugar-free diet will persuade even the most stubborn child to stick with the plan, says Block. "After two months off sugar, you can't make kids eat it because they like having control of themselves again," she says.

## UP INTAKE OF OMEGA-3 ESSENTIAL FATTY

**ACIDS.** Omega-3 essential fatty acids (comprised of DHA and EPA), are not called "essential" for nothing. They are vital to our health and well-being because all cells in the body have a cell

membrane that is partly made up of essential fatty acids, says Dean. Research shows that in addition to reducing inflammation in the body and lowering the risk of a variety of diseases, omega-3s are crucial for proper brain development and mood regulation, especially in young children. Omega-3s are found in flaxseed, nut oils, and algae, but the most absorbable form comes from fish. In children diagnosed with ADHD, numerous studies have shown that supplementing with fish oil may improve attention and learning. A 2011 review in the *Journal of the American Academy of Child and Adolescent Psychiatry* looked at studies on the topic and found that



fatty acid supplementation (particularly in the form of EPA) showed a modest benefit for children diagnosed with ADHD. “Though fish oil is not an FDA-approved treatment for ADHD, it could be used as an adjunct—not a primary—therapy for ADHD,” says Adesman. “I’m not aware of any harmful effects when taken as a daily supplement,” he adds. Because most Americans don’t get enough omega-3 fatty acids, eating more fatty fish or taking a fish oil supplement may be a simple way to boost brain health. How much is enough? “The dose is dependent on the child,” says Dorfman. “For a therapeutic dosage for kids over 3 years, you want a minimum of 1,000 mg daily of a combination DHA and EPA supplement.”

#### MAKE ROOM FOR MAGNESIUM AND OTHER VITAMINS AND MINERALS.

Many nutrients affect brain function, but magnesium is one that may be an underrated superstar. According to Dean, this mineral, which is needed for hundreds of chemical reactions in the body, can help alleviate behavioral issues such as hyperactivity, anxiety, and stress. “Without enough magnesium, calcium floods muscle and nerve cells, creating spasms and irritability,” says Dean. “ADHD, juvenile delinquency, and childhood depression are all associated with magnesium deficiency.”

Unfortunately, most people in the U.S. don’t get the recommended amounts of magnesium, according to the National Institutes of Health (NIH) Office of Dietary Supplements. Even if most Americans eat plenty of foods that contain magnesium (such as spinach and almonds), Dean explains that, due to our farming practices, our soil no longer contains high levels of magnesium, which means that our food is not rich in the nutrient. While every child’s diet and nutrient levels should be evaluated individually—and with the help of a medical professional—there does seem to be a good case for increasing your child’s intake of magnesium. “When I’ve given magnesium to kids with ADHD, their muscles relax, they calm down, and their behavior and

concentration improve. I tell the parents not to let the teachers know what they’re taking, and the teachers always remark that the child is more calm and focused,” notes Dean. For Jameson, “there was a difference in him after Dr. Block gave him his first magnesium supplement. It calms him,” says Lohner.

The recommended dietary allowance (RDA) for magnesium ranges from 80 mg to 410 mg for children ages 1 to 18 (and should be taken in the same ratio as calcium to enable both nutrients to work well). Magnesium can be taken as magnesium citrate powder, ideally spread throughout the day, as opposed to one big dose, to avoid a laxative effect, or in a picconic liquid form.

In addition to magnesium, researchers are also evaluating the impact of B-complex vitamins, choline, zinc, and iron on brain function and behavioral disorders. But experts caution against placing too much stock in large doses of one or two nutrients. “Supplementation has to be evaluated on an individual basis,” says Goldberg. “Filling in the gaps where a child’s diet is deficient is important, but parents need to be careful about over-supplementing—and recognizing that it’s not a quick fix. Still, in some kids, supplements may lessen behavioral problems, such as ADHD symptoms.” One reasonable solution, then, is to give your child a daily multivitamin (that doesn’t exceed 100 percent of your daily recommended intake, advises Goldberg). A study published in *The Journal of Alternative and Complementary Medicine* found that giving schoolchildren multivitamin and mineral supplements lowered violence and antisocial behavior by almost half. Wondering which multi to choose? Though it can be hard to pick a product because the Food and Drug Administration (FDA) doesn’t regulate supplements, Dean recommends Natural Vitality’s Kids Natural Calm Multi (available in pharmacies, stores, and online at sites such as [kiwishoponline.com](http://kiwishoponline.com)), which has recommended dietary allowances of

vitamins and minerals (including magnesium, B complex, zinc, iron), and a healthy dose of omega-3 fatty acids.

#### LIMIT ENVIRONMENTAL CHEMICALS.

Mounting research is showing that pesticides, artificial food additives, and other environmental toxins can build up in our bodies—especially the little bodies of young children—and are linked to a slew of maladies such as behavioral disorders, hormone disruption, and lowered immunity to disease. A new AAP policy statement on pesticides in children, released in December 2012, concludes that “acute poisoning risks are clear...and epidemiologic evidence demonstrates associations between early life exposure to pesticides and pediatric cancers, decreased cognitive function, and behavioral problems.”

Though this statement is alarming, there are many ways (large and small) you can reduce your child’s exposure to pesticides and other chemicals. While you are likely already aware that buying organic foods whenever possible will reduce your family’s pesticide intake, it’s also a good idea to check food labels for artificial additives. Food dyes, for instance, have been linked to an increase in hyperactivity in a small percentage of children, notes Dorfman. “There is some evidence that restricting food coloring can have a modest effect on symptoms of behavior,” says Adesman. This evidence linking food dyes to behavioral problems has led the United Kingdom to ban six specific dyes from food, and it has prompted the European Union to require those six dyes to be listed on all labels. Though the FDA decided not to prohibit food manufacturers from using dyes, if you notice that your child reacts to them, you can do your best to avoid buying foods containing these dyes by reading labels carefully. Though there is no escaping environmental toxins completely, restricting your child’s exposure to them as best you can may go a long way toward preventing future ailments and keeping your child healthy. ●

