

AUTISM'S GUT-BRAIN AXIS

A Promising Approach to Healing

by Emily Courtney



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With the diagnosis of autism spectrum disorder (ASD) on the rise—now affecting one in every 59 school-age children, according to estimates from the U.S. Centers for Disease Control and Prevention (CDC)—identifying effective, integrative remedies is more important than ever.

“You may have five kids with ASD that are very different in how they present and what contributes to the disorder, so one size and one treatment does not fit all,” says Kenneth A. Bock, M.D., of Bock Integrative Medicine, in Red Hook, New York, author of *Healing the New Childhood Epidemics: Autism, ADHD, Asthma, and Allergies. The Groundbreaking Program for the 4-A Disorders*.

ASD encompasses a range of disorders characterized by repetitive behaviors and impaired social skills and communication. Although it includes four distinct conditions, one of its hallmarks is how much it varies from person to person and how different the restrictions can be for each child.

The very nature of the condition lends itself to integrative approaches that can be significantly effective, says Bock. “ASD is really a whole-body disorder that affects the brain, so a whole-body approach makes so much more sense.”

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From specialized diet and supplement regimens to a variety of alternative therapies, parents have a wealth of complementary options from which to choose. One integrative approach, however, is showing exceptional, research-backed promise: healing the gut.

The Gut-Autism Connection

Children with ASD frequently experience gut issues such as constipation or diarrhea; a review from the International Society for Autism Research indicated that nearly 47 percent of autistic children exhibited at least one gastrointestinal (GI) symptom. And, the more severe a child's GI symptoms, the more severe the autism, according to a study in *BMC Gastroenterology*.

Not coincidentally, research is finding that these digestive conditions and the accompanying ASD may be connected to the gut microbiome, an ecosystem of trillions of microbes living in the digestive tract.

“Kids with ASD may have inflammation in the brain, and we've learned that it can be very much related to inflammation of the gut,” explains Bock. “The gut and immune system—which are intimately connected because the majority of our immune system is in the gut—are two of the most crucial systems involved in autism spectrum disorders.”

It turns out that kids with ASD have less bacterial diversity in their guts than non-autistic kids, along with an imbalance between good and bad bacteria. This dysbiosis of the gut flora leads to problems with improper immune function, inflammation and a leaky gut barrier.

It all comes down to the gut-brain axis, by which the gut and brain communicate with each other. When the microbiome isn't balanced, not only is this vital communication system broken, but toxins and pro-inflammatory molecules that trigger ASD-like behaviors can cross the blood-brain barrier.

Experts say prioritizing gut health can relieve both GI issues and ASD symptoms.

Focus on Gut Health for ASD Care

For children with ASD, reinforcing the intestinal barrier and restoring balance to the microbiome can have profound health effects.

“With dysbiosis and an overly permeable gut, inflammatory molecules can leak into the circulatory system, travel up to the brain and cross the blood-brain barrier, causing inflammation. A lot of it originates in the gut, so when we treat the gut, we can restore microbial balance, diversity and resilience to the ecosystem—and in doing so, decrease inflammation, help restore the appropriate blood-brain barrier and bring the brain back into more of a balance,” advises Bock.

Before embarking on a treatment plan, Bock emphasizes the importance of working with a qualified healthcare practitioner to determine where a child fits in terms of subtypes of ASD, along with any other individual contributing factors.

Although autism spectrum disorder is complex, using holistic strategies that address the whole body can make all the difference. “I see thousands of kids on the spectrum, and the vast majority of them improve with an integrative approach to treatment, and more and more kids are actually recovering,” notes Bock.

Emily Courtney is a freelance health and wellness writer and editor living in northern Colorado. Connect at EmilyCourtneyWrites@gmail.com.

FOUR WAYS TO SUPPORT GUT HEALTH

Gluten- and casein-free diet. A study published in *Metabolic Brain Disease* found that excluding gluten and casein led to significant improvements in ASD scores. “A gluten-free, casein-free diet is anti-inflammatory, and can help heal a leaky gut by restoring intestinal integrity and enabling the gut barrier to heal,” says Kenneth A. Bock, M.D.

Probiotics. Beneficial bacteria are integral to a balanced microbiome, but many ASD kids are lacking friendly flora. Research by Rutgers University shows that probiotics can improve GI dysfunction and reduce the severity of ASD symptoms.

Prebiotics. To thrive, beneficial bacteria need plenty of prebiotic fiber. In a study of 30 autistic children published in *Microbiome*, six weeks of prebiotic supplementation led to reduced anti-social behavior.

Preconception care. Research from the University of Virginia School of Medicine suggests that a mom’s microbiome may partially determine her child’s ASD risk. Because babies inherit their microbes from their mothers, it’s crucial that pregnant women have healthy gut flora to pass on. Bock recommends that expecting moms ensure adequate intake of probiotics, prebiotics, vitamin D and fish oil, both before and during pregnancy, to help decrease inflammation and promote a healthy maternal microbiome.

To succeed in life,
you need three things:
a wishbone,
a backbone and
a funny bone.

—Reba McEntire

