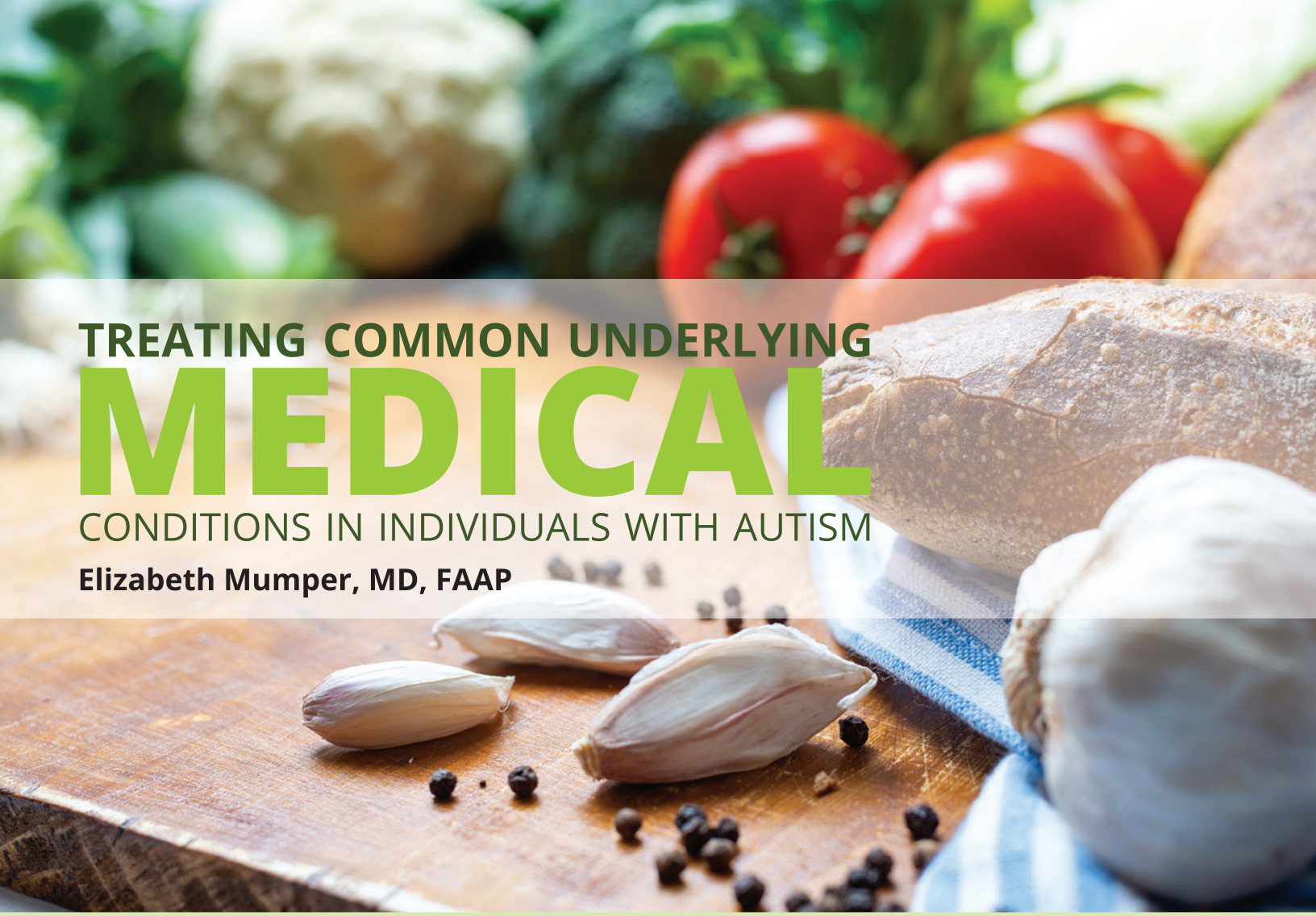

TREATING COMMON UNDERLYING MEDICAL CONDITIONS IN INDIVIDUALS WITH AUTISM

Elizabeth Mumper, MD, FAAP

Autism is diagnosed in children and adults on the basis of certain behavioral criteria. In the case of children with autism, it is crucial to look for underlying medical problems that may be treatable.

Common medical conditions include:

- **Gastrointestinal (GI) Issues**

Common GI issues include dysbiosis, or an imbalance of gut flora, intestinal inflammation, PICA (eating non-edible items), and maldigestion with enzyme deficiencies.

These issues may have started as early as in infancy. Some indicators that your child has GI issues include breastfeeding struggles, being colicky as an infant, reflux, food sensitivities, failure to thrive, history of frequent antibiotic use, poor sleep, constipation and/or diarrhea.

If your child is not able to verbalize GI discomfort, a possible indicator is if your child pushes his/her belly against a surface like a sofa arm to relieve pain. Self-injurious behavior could also be an indicator.

- **Neurological Issues**

Neurological issues include local or systemic inflammation, anxiety, sensory integration problems or chronic fight-or-flight responses resulting in adrenal stress or fatigue. It's important for parents to understand that brain inflammation can be an effect of other impaired systems.

Seizures are also considered neurological issues. Up to 40 percent of children with autism have regular seizure episodes. Research has shown that, in some cases, seizure activity is preventable if the brain is nourished early.

- **Immunological Dysregulation**

Immunological dysregulation often occurs when there is a shift in balance between TH1 — immune cells that fight bacteria, virus and fungi — and TH2 — part of the immune system associated with allergy and autoimmunity.

Symptoms of this shift include dark or red circles under the eyes known as allergic shiners, eczema, fungal skin infections, oral thrush, chronic warts or molluscum contagiosum, a common viral skin infection.

- **Mitochondrial Impairment**

Children with mitochondrial impairments have difficulty making adenosine triphosphate (ATP), the primary molecule for carrying energy in cells. It is involved in metabolic processes and functioning of the brain.

Common symptoms of mitochondrial impairment include low muscle tone, fatigue, brain fog and/or short attention span.

- **Metabolic Impairments**

Metabolic impairments occur when the metabolism process in a body causes it to have an excess or a shortage of essential substances. The body needs very specific levels of metabolites to stay healthy. Unbalanced methylation biochemistry and impairment in the detoxification pathway are common metabolic impairments in children with autism.

The Solution: The Five R's

The human body has a natural, abundant tendency to heal. One of my mentors, Sid Baker, MD, taught me that if the body fails to heal, try to figure out if it has too much of something it needs to eliminate, such as toxins or infections, or too little of something it needs, such as nutritious food and vitamins.

The first step in correcting these imbalances is to work on a food plan that is nutrient-dense, as organic as possible, and free of processed foods, dyes and preservatives that many children on the autism spectrum are not able to process and excrete. To do this, consider following the Five R's.

We tell our patients to "eat a rainbow every day." This means eating foods that are each color in the rainbow, with either blue or purple counting as one category. Patients should do food trials and track symptoms in response to changes in diet. A good place to start is to eat what grows in nature, and eliminate gluten, dairy and soy. Food should be as organic as possible, mostly grain-free, and contain no added sugar. In addition, processed foods, dyes and preservatives should be avoided.

Many parents find it quite difficult to give up gluten, dairy, sugar and processed foods. Parents will often protest that these are their children's favorite foods. Paradoxically, if a child craves a certain food, it may be the result of abnormal utilization of that food. We often see dramatic changes for the better when those foods are eliminated. As one example, gluten and casein may not be broken down into basic amino acids by some children. Sometimes digestion of these foods results in the formation of gluteomorphins or caseomorphins, which has an opiate effect and can give the child brain fog.

Gluten-free and Casein-free

When children have neurological problems, it is important to determine whether foods might be triggers. A strict gluten-free, dairy-free diet can lead to dramatic improvements. Removing dairy "most of the time" or "except on weekends" will likely not lead to significant improvements since the immune system response to gluten and casein molecules can last for weeks to months.

Reducing the Symptoms of Autism

In 2005, we made changes in our general pediatric practice to address autism risks based on what I learned from conferences and think tanks organized by the Autism Research Institute. Our hope was to reduce the symptoms of autism in our current patients and prevent high-risk children from developing autism symptoms.

Our recommendations to patients focus on the following:

- Minimize environmental toxicant exposure. This should start pre-conception and continue throughout the child's adolescence.
- Continue breastfeeding, ideally through at least 12 months. Even if mothers need to supplement with formula for various reasons, we encourage any amount of breastfeeding to provide the amazing immunological properties in breast milk that formula companies cannot replicate.
- Make use of probiotics and cultured foods. We have a low threshold for giving probiotics to our patients and recommend starting them at two to four weeks if infants are at risk for microbiome depletion. Some of the indications for use of such products include when children are born by C-section and not breastfeeding, patients who have been given antibiotics, and the presence of infantile eczema or ear infections.
- Seek nutritional counseling. We employ a full-time nutritionist to provide anticipatory guidance to teach babies to like nutrient-dense foods and vegetables, and to give parents tips for feeding picky eaters.
- Limit the use of antibiotics. When infant histories are reviewed in the context of an autism diagnosis, children with autism are more likely to have a history of the use of multiple antibiotics. Since most fevers and infections in childhood are caused by viruses, we take extra time to explain how to support the child through a viral illness with fluids and natural remedies rather than giving a prescription for antibiotics.
- Avoid acetaminophen, especially after vaccinations. Acetaminophen depletes a substance called glutathione, which is our major intracellular antioxidant. It is a cornerstone of our detoxification metabolism, and is vital for the function of our immune cells, mitochondria and gut lining. Many fevers in babies and young children can be handled with tepid baths. Ibuprofen also works to bring down fevers, but is not recommended for infants under six months of age.
- Follow a modified vaccine schedule. Despite the oft repeated mantra that "vaccines don't cause autism," research has shown they can exacerbate autism symptoms in a subset of susceptible children (Lyons-Weiler & Thomas 2021). In the past two decades, science has come to show plausible mechanisms of damage to some children with certain genetic predispositions and environmental factors. The Vaccine Injury Compensation Program has compensated children who developed autism after multiple vaccinations when they had underlying mitochondrial dysfunction. The most famous case is that of Hannah Poling.
- Avoid receiving multiple vaccines at once. I cannot tell by examining a baby during a wellness checkup what liver enzyme impairments or detoxification variations might be present. Detoxification pathways affect how well adjuvants in vaccines are metabolized and excreted. We recommend that parents, under careful medical supervision, limit the number of vaccines given to their child at each visit to one or two, depending on the individual situation.

As a pediatrician who has taken hundreds of histories from parents of children diagnosed with autism over more than twenty years, I strongly recommend looking at the genetic and environmental factors that influence complex whole-body networks of changes that lead to what we have labeled autism. Just as there are many potential pathways that lead to children being diagnosed on the autism spectrum, there are also many opportunities to intervene and reduce the number of new cases. As we investigate underlying medical conditions in our children, we are able to address many of their symptoms. By implementing these strategies, we hope to be able to stop the exponential growth of neurodevelopmental disorders in this generation of children.

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Elizabeth Mumper, MD, FAAP, is the President and CEO of the Rimland Center. Her general pediatrics practice is Advocates for Children. Advocates for Families is devoted to the care of children with autism and other neurodevelopmental problems.

Dr. Mumper spent five years in practice at F Read Hopkins Pediatrics in Lynchburg. She spent over a decade as Director of Pediatric Education at the Lynchburg Family Practice Residency Program. She maintained a clinical faculty appointment at the University of Virginia for 16 years. She served as Medical Director of the Autism Research Institute for five years.

Dr. Mumper has been honored to receive many awards over the years, including being named a Miracle Maker in Central Virginia in 1996 by the Children's Miracle Network and Woman of the Year in Health and Sciences in 1998 by the YWCA. She was privileged to accept a national award for corporate public service at the National Press Club in Washington on behalf of the Bike Helmet Safety Campaign she co-chaired for many years.

Dr. Mumper has written book chapters about allergy, immunology and behavioral and developmental pediatrics published in the book *Pediatrics* published by Lippincott, Williams & Wilkins, which is a board review series book for medical students and includes many questions and answers. During the past five years, she has conducted clinical research at the Rimland Center and published ten peer-reviewed articles in the medical literature.

One of the joys of her current work is the opportunity to teach others about medical problems of children with autism and related disorders. She lectures nationally and internationally. She feels privileged to mentor physicians around the world. Her travels on behalf of children with autism have taken her to Australia, the Czech Republic, Denmark, Hong Kong, Italy, Japan, New Zealand, Norway, Poland, Sweden, Switzerland, Thailand, and the United Kingdom.