

Autism Research at ACHRI Puts Hope in Hopelessness

"One of life's most difficult blows is to find out your child has a disability. Ours was autism," said Lisa, the mother of 6-year-old boy with autism. Lisa recalls the exact moment that she received her son David's diagnosis. It was March 15, 2005. "There it was in black and white written at the top of his medical chart: Autism. What now we thought? Our perfect child autistic? Our world fell apart."

Each year, one in 166 children is diagnosed with autism, a complex developmental disability characterized by impairment in social interaction and language accompanied by social withdrawal and repetitive hyper-focused behaviors. Boys are four times more likely than girls to have autism. The disorder appears to have increased tenfold over the last 15 years. Although both genetic and environmental factors are believed to contribute to the development of autism, no firm causal evidence exists.



Today David walks, runs, and loves to play with his big sister. His mom says "Just because he has autism does not mean that autism has him."

Lisa began searching for answers. She wants David to be given every opportunity to lead a normal life. She learned about Dr. Jill James' research at the Arkansas Children's Hospital Research Institute (ACHRI). Dr. James is the Director of the Metabolic Genomics Laboratory at ACHRI and a member of the Arkansas Center for Birth Defects Research and Prevention. Dr. James' research is focused on the understanding of the metabolic and genetic factors that may be mechanistically involved in the pathogenesis of autism. The abnormal metabolic and genetic profiles discovered in Metabolic Genomics lab indicate that some autistic children may be more vulnerable to environmental factors that increase oxidative stress.

Recent evidence from Dr. James' laboratory suggests that autism may involve inherited metabolic aberrations that secondarily affect neurologic and immunologic function during prenatal and postnatal development. If proven correct, this model supports the possibility that normalization of the metabolic imbalance with targeted intervention strategies could potentially improve symptoms and arrest the progression into autism.

Today, David attends school. He is affectionate and loving towards people he knows. When he sees others give praise to a fellow student, he himself will often show praise to the student nearest to him. Despite autism, his mother says "he is perfect to me."

Earlier this year David participated in a clinical trial at ACHRI directed by Dr. Jill James. The purpose of the study is to determine whether nutritional supplementation to support cellular antioxidant and detoxification capacity will improve the metabolic profile and measures of behavior in autistic children. Although he has completed the study, David's metabolic profile and behavior improved on the study and he continues to take the supplements.

Since David began receiving the supplements, he has become more social and his verbal skills have increased. His mother sees him smile more frequently. "I will be eternally grateful to Jill for giving me the opportunity to see something I thought I would never see," said Lisa. Although each autistic child is a unique challenge, it is clinical research like that of Jill James at ACHRI that gives hope to parents of children with autism.



Established in 1989, Arkansas Children's Hospital Research Institute provides an on-site research environment for faculty of the University of Arkansas for Medical Sciences working on the Arkansas Children's Hospital campus. Over 120 pediatric researchers with expertise and experience that span the breadth of medical disciplines comprise ACHRI's roster of investigators who work to fulfill its mission to improve children's health, development, and well-being through high quality research. For more information, visit <http://achri.archildrens.org>.