Exhibit 4

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PETITION FOR WRIT OF HABEAS CORPUS
MARTINSVILLE GENERAL DISTRICT COURT CASE NO. C18-3138
MARTINSVILLE CIRCUIT COURT CASE NO. CR19000009-00

Exhibit in attachment to "BRIEF AND EXHIBITS IN SUPPORT OF PETITION FOR WRIT OF HABEAS CORPUS"



About Autism

Autism represents a broad group of developmental disorders characterized by impaired social interactions, problems with verbal and nonverbal communication, and repetitive behaviors or severely limited activities and interests.

What is autism?

Autism - or more precisely the autism spectrum disorders (ASDs) - represent a broad group of developmental disorders characterized by impaired social interactions, problems with verbal and nonverbal communication, and repetitive behaviors or severely limited activities and interests.

The ASDs include a variety of medical autism diagnoses, which vary in the severity of the individual symptoms and include autistic disorder (sometimes called classical autism), Asperger's syndrome and a general diagnostic category called Pervasive Developmental Disorders (PDD).

Autism has become the most commonly diagnosed childhood developmental disorder. According to the Centers for Disease Control Prevention in 2007, autism spectrum disorders now affect 1 in every 150 children in the United States. Statistics from the U.S. Department of Education and other government agencies indicate that autism diagnoses are increasing at the rate of 10 to 17 percent per year.

Autism can affect any individual and is not based on ethnic, racial or social background. The incidence of autism is the same all around the world. It is four times more common in boys than in girls.

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What are the symptoms of autism?

Autism usually develops before 3 years of age and affects each individual differently and to varying degrees. It ranges in severity from relatively mild social and communicative impairments to a severe disability requiring lifelong parental, school and societal support.

The hallmark symptom of autism is impaired social interaction. Children with autism may fail to respond to their name and often avoid eye contact with other people. They have difficulty interpreting what others are thinking or feeling because they don't understand social cues provided by tone of voice or facial expressions and they don't watch other people's faces to pick up on these cues.

Many children with autism engage in repetitive movements such as rocking, spinning, twirling or jumping, or in self-abusive behavior such as hand biting or head-banging.

Of children being diagnosed now with an autism spectrum disorder, about half will have intellectual disabilities defined by nonverbal IQ testing, and 25 percent will also develop seizures. Though most children show signs of autism in the first year of life, about 30 percent will seem fine and then regress in both their language and social interactions at around 18 months of age.

About 30 percent of children with autism have physical signs of some alteration in early development such as physical features that differ from their parents (sometimes called dysmorphic features), small head size (microcephaly) or structural brain malformations.

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How is autism diagnosed?

Diagnosis of autism is based on standardized testing plus a clinical evaluation by an autism specialist. These professionals are usually psychologists, psychiatrists, developmental pediatricians, pediatric neurologists or medical geneticists.

The diagnosis of autism is made when there are a specific number of symptoms as defined by the Diagnostic and Standard Manual of Mental Disorders (DSM-5, published in 2013). Some commonly used diagnostic tests are the CARS (Childhood Autism Rating Scale), the ABC (Autism Behavior Checklist) and the GARS (Gilliam Autism Rating Scale). Formal diagnosis by an autism specialist usually depends on completing the ADOS (Autism Diagnostic Observation Scale), and ADI-R (Autism Diagnostic Interview-Revised). The CHAT (Checklist for Autism in Toddlers) is often used in pediatrician's offices to screen for autism symptoms.

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What is the treatment for autism?

There is currently no cure for autism. However, autism can be managed and shaped at a young age, even as early as pre-school. Early intensive therapy can have a positive effect on development later in life.

Treatment of autism involves medical and behavioral therapies to help children with conversational language and social interactions. Treatment also involves helping children decrease their repetitive, self-stimulatory behaviors, tantrums and self-injurious behavior.

Medications can help treat specific symptoms such as aggressive or self-injurious behavior, inattention, poor sleep and repetitive behaviors. However, no medications are autism specific and medications should be used in conjunction with a family-centered, behavioral and educational program.

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Is autism inherited?

Scientists are not certain what causes autism, but it's likely that both genetics and environment play a role.

The causes of autism may be divided into 'idiopathic', (of unknown cause) which is the majority of cases, and 'secondary,' in which a chromosome abnormality, single-gene disorder or environmental agent can be identified. Approximately 15 percent of individuals with autism can be diagnosed with secondary autism; the remaining 85 percent have idiopathic autism.

Exposure during pregnancy to rubella (German measles), valproic acid, and thalidomide, are recognized causes of secondary autism; however, it remains unclear whether those who develop autism after such an exposure are also genetically predisposed.

The search for new environmental causes of secondary autism has centered primarily on childhood immunizations given around the time that regressive-onset autism is recognized. Both childhood immunizations and mercury in thimerosal, which was used as a preservative in some routine immunizations until 2001, have both been under scrutiny; however, no scientific evidence for a relationship between vaccines and autism has been identified.

Researchers have identified a number of genes associated with autism. Studies of people with autism have found irregularities in several regions of the brain. Other studies suggest that people with autism have abnormal levels of serotonin or other neurotransmitters in the brain. These abnormalities indicate that autism usually results from the disruption of normal brain development early in fetal development caused by defects in genes that control brain growth and that regulate how neurons communicate with each other. These are preliminary findings and require further study.

The risk that a brother or sister of an individual who has idiopathic autism will also develop autism is around 4 percent, plus an additional 4 to 6 percent risk for a milder condition that includes language, social or behavioral symptoms. Brothers have a higher risk (about 7 percent) of developing autism, plus the additional 7 percent risk of milder autism spectrum symptoms, over sisters whose risk is only about 1 to 2 percent.

When the cause of autism is a chromosome abnormality or a single-gene alteration, the risk that other brothers and sisters will also have autism depends on the specific genetic cause.

Additional Resources for Autism

National Institute of Neurological Disorders and Stroke

National Institute of Mental Health

Eunice Kennedy Shriver National Institute of Child Health and Human Development

MedlinePlus

Autism Society

Autism Speaks

Autism Research Institute

Genetic and Rare Disease Information Center

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