

New Study Shows Autism-Related Developmental 'Red Flags' Identifiable At Age Two In Children With Autism Spectrum Disorders

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Early detection of autism is critical for early intervention, yet autism spectrum disorders (ASD) are typically not diagnosed until after three years of age. However, a study published today in the *Journal of Child Psychology and Psychiatry* found differences between typically developing children and those with ASD are detectable by two years of age. Because there are currently no medical diagnostic tests for autism, identifying developmental disruptions in infants and very young children with ASD may allow for earlier detection and critical intervention.

The study examined development in 87 infants at 6, 14 and 24 months of age using a standardized development test. Based on data and clinical judgment at 24 months, participants were classified as: unaffected, language delayed (LD) or ASD. Researchers compared development across groups at the three target ages and observed statistically significant differences between the ASD group and the unaffected group at 14 months. By 24 months, significant differences were detectable between the ASD group and both the unaffected and LD groups.

"Introducing behavioral interventions even one year earlier can make a tremendous difference in the lives of children with autism and their families," said Dr. Rebecca Landa, Director of the Center for Autism and Related Disorders at the Kennedy Krieger Institute in Baltimore, MD and lead author of the study. "If we are able to educate professionals to identify red flags in development we can then recognize and diagnose the disorder at one- and-a-half or two years of age, instead of three or four, allowing for earlier intervention and ultimately better outcomes."

Participants in the study included infants at high risk for autism (siblings of children with autism), and infants at low risk (no family history of autism). Researchers measured development using the Mullen Scales of Early Learning (MSEL), a standardized test which assesses five domains of development, including: gross and fine motor; visual reception; and receptive and expressive language. At 14 months, four of the five mean MSEL scores were significantly lower in toddlers with ASD than those in the unaffected group. By 24 months, the ASD group performed significantly worse than the unaffected group in all domains of development, and worse than the LD group in three domains. Nearly half of the ASD group showed developmental worsening between 14 and 24 months.

This study and previous research studies conducted by Dr. Landa found that developmental red flags for parents and physicians to watch for include: poor eye contact; reduced responsive smiling; diminished babbling; reduced social responsivity;

and difficulty with language development, play and initiating or sustaining social interaction.

"With so many unanswered questions in the autism arena, we need to tackle this condition on many different fronts," said Dr. Gary Goldstein, President and CEO of the Kennedy Krieger Institute. "For this reason, experts at Kennedy Krieger are not only conducting early diagnosis and intervention research, but also investigating the genetic and environmental causes of autism, as well as other potential treatment options."

Autism is the fastest growing developmental disorder in the United States. This year more children will be diagnosed with autism than AIDS, diabetes and cancer combined, yet profound gaps remain in our understanding of both the causes and cures of the disorder. Increasing our knowledge about developmental disruptions in individuals with ASD is crucial, since early detection and intervention can lead to improved outcomes in individuals with ASD.

About the Kennedy Krieger Institute

Internationally recognized for improving the lives of children and adolescents with disorders and injuries of the brain and spinal cord, the Kennedy Krieger Institute in Baltimore, MD serves more than 12,000 individuals each year through inpatient and outpatient clinics, home and community services and school-based programs. Kennedy Krieger provides a wide range of services for children with developmental concerns mild to severe, and is home to a team of investigators who are contributing to the understanding of how disorders develop while pioneering new interventions and earlier diagnosis. For more information on Kennedy Krieger Institute, visit <http://www.kennedykrieger.org>.

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