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New Study on Autism's Causes Rolls Out

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Families who already have one child with autism have perhaps ten times* the usual risk that a second child will also have autism. That's why researchers are increasingly interested in focusing on these high-risk families as a way of teasing apart the genetic and environmental factors that cause the disorder.

One of the bigger studies of these "enhanced risk" families officially kicked off today with an online press conference. The Early Autism Risk Longitudinal Investigation (EARLI) will follow 1,200 pregnant women who already have at least one child with an Autism Spectrum Disorder, throughout pregnancy and through the first three years of the child's life. The infants will be assessed according to language, social and cognitive development at ages 6 months, 12 months, 18 months, 24 months and 36 months.

Researchers at four sites- Philadelphia, Baltimore and two sites in Northern California–will recruit the women, including those who plan to become pregnant but are not yet expecting. The teams will collect a wide range of materials and data throughout the perinatal and post-natal period, explained principal investigator Craig J. Newschaffer, an epidemiologist who chairs the Drexel University School of Public Health. That includes 1. biological materials: blood, urine and hair samples from the pregnant woman and later from her child, breast milk and meconium (the infant's first fecal waste), 2. environmental samples at home including household dust, air samples that measure the presence of cleaning products, pesticides and the like, and 3. information about diet, lifestyle and medical history, including infections and vaccine history.

The plan is to look for patterns and combinations of factors–genetic, environmental, epigenetic, immunological– that correlate with autism. Many of the genes linked to autism are very common in the overall population. "That suggests that those genes alone are not the full story," explained Irva Hertz-Picciotto, chief of division of environmental and occupational health at the University of California Davis School of Medicine, one of the study sites. "We will be combining the environmental data with the genetic data," she said. "The combination will I think really be the avenue to making headway."

Researchers stressed that a prospective study that collects data and biological evidence as it goes obtains much higher quality information than the more common and cheaper retrospective studies, which ask parents to remember and reconstruct

information about pregnancy, birth and early childhood.

EARLI is funded by a $14 million grant from the NIH and a $2.5 million grant from Autism Speaks.

*The estimated risk in the U.S. of having a child with autism is 1 in 150, or .6% The risk for families that already have one child with autism has been estimated at anywhere from 3% to 12%. Current thinking is that it's toward the higher end of this range.

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