

# Researchers study cry acoustics to determine risk for autism

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Autism is a poorly understood family of related conditions. People with autism generally lack normal social interaction skills and engage in a variety of unusual and often characteristic behaviors, such as repetitive movements. While there is no specific medical treatment for autism, some success has been shown with early behavioral intervention.

Understanding the importance of early diagnosis, researchers at Women & Infants' Brown Center for the Study of Children at Risk in collaboration with researchers at University of Pittsburgh have been studying the cry acoustics of six-month-old infants. Their research has recently been published in [Autism Research](#).

"Because we can measure various aspects of babies' cries from the earliest days of life, it may be possible to use this technique to identify risk for neurological problems such as autism long before we can detect behavioral differences," said Stephen J. Sheinkopf, PhD, lead researcher, psychologist at the Brown Center for the Study of Children at Risk, and assistant professor (research) in the Department of Psychiatry and Human Behavior at The Warren Alpert Medical School of Brown University.

The study examined ways in which infants at risk for autism produced cries as compared to the cries of low-risk infants. Recordings of babies' cries were excerpted from vocal and video recordings of six-month-old infants at risk for autism spectrum disorder (ASD) and those with low risk. Infants were considered to be at risk if they had an older sibling

with a confirmed ASD [diagnosis](#).

Cries were categorized as either pain related or non-pain related based on observations of the videotapes. At-risk infants produced pain related cries with higher and more variable fundamental frequency (commonly referred to as "pitch") as compared to low-risk infants. A small number of the at-risk [infants](#) were later diagnosed with an ASD at 36 months of age. The cries for these babies had among the highest fundamental frequency values and also differed in other acoustic characteristics.

"These findings demonstrate the potential of this approach for babies as young as six months of age," said Dr. Sheinkopf.

Provided by Women & Infants Hospital

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