

# Recurrent viral respiratory tract infections during first six months and risk of T1 diabetes

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In a study appearing in the May 3, 2016 issue of *JAMA*, Anette-Gabriele Ziegler, M.D., of Helmholtz Zentrum Munchen, Munich, Germany, and colleagues examined associations between infection types during the first 2 years of life and between respiratory tract infections in the first 6 months and type I diabetes (T1D). Viral infections, particularly enteroviruses, have been hypothesized to cause T1D. Recent studies suggest that respiratory tract infections are associated with increased T1D risk if they are encountered within the first 6 months.

Using data for patients in Bavaria, Germany, the study included 295,420 infants, of whom 720 were diagnosed with T1D over a median follow-up of 8.5 years, for an incidence of 29 diagnoses per 100,000 children annually. At least 1 infection was reported during the first 2 years of life in 93 percent of all children, and in 97 percent of children with T1D.

Most children experienced respiratory and [viral infections](#). The researchers found that T1D risk was increased in children who had a [respiratory tract infection](#) between birth and 2.9 months or between 3 and 5.9 months of age compared with children who had no respiratory tract infections in these age intervals. T1D risk was also increased among [children](#) who experienced a viral infection between birth and 5.9 months of age.

"It is unknown whether the association with early infections reflects increased exposure to virus or an impairment of the immune system response, perhaps due to [genetic susceptibility](#)," the authors write. "The association of respiratory tract infections in the first 6 months with T1D is consistent with smaller studies assessing autoantibody development, suggesting that the first half-year of life is crucial for the development of the

immune system and autoimmunity."

**More information:** *JAMA*, [DOI: 10.1001/jama.2016.2181](#)

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