



## [Hay fever--a Finnish nationwide study of adolescent twins and their parents.](https://arctichealth.org/en/permalink/ahliterature204165)

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Author: M. Räsänen  
T. Laitinen  
J. Kaprio  
M. Koskenvuo  
L A Laitinen

Author Affiliation: Department of Medicine, Helsinki University Central Hospital, Finland.

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Abstract:

Like other atopic diseases, hay fever is known to cluster in families. This clustering is due either to effects of a shared family environment or to genetic inheritance. By comparing the occurrence of hay fever among monozygous (MZ) and dizygous (DZ) twin pairs, we were able to estimate the contribution of genetic and environmental factors in the development of hay fever.

A questionnaire mailed to a nationwide sample of 2483 families with 16-year-old twins furnished data for the cumulative incidence of physician-diagnosed hay fever among these adolescents and their parents.

Among the 1765 twin pairs with data available for analysis, hay fever was reported for 14.1% of boys (95% CI=12.4-15.8%) and 10.0% of girls (95% CI=8.6-11.4%). The MZ twin pairs (probandwise concordance rate=60.3%, 95% CI=52-68%) were significantly more concordant for hay fever than were DZ twin pairs (31.5%, 95% CI=26-36%).

Genetic factors accounted for 74-82% of the interindividual variability in liability to hay fever, variation in shared family environment for 7% at most, and unique (individual) environment for 18%.

Familial occurrence of hay fever is mainly due to genes predisposing to the trait. Environmental exposures shared in common by family members but varying between families appear to account for at most a modest proportion of the variability in risk of developing hay fever.

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