

The Long Term Effects of Viral Respiratory Infections in Infancy on Airway Function

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Wheezing is a fairly common symptom in early childhood with approximately 50% of children with reported wheeze in the first year of life¹. Only 40% of these toddlers will experience continued wheezing symptoms in later childhood¹; thus, the diagnosis of persistent asthma in the preschool age remains ambiguous and imperfect. Viral respiratory tract infections, particularly those due to rhinovirus or respiratory syncytial virus, are important causes of wheezing in this time period and they have been potentially linked with the subsequent development of asthma. From epidemiological data, several early childhood wheezing phenotypes have been described based on the natural history and risk factors associated with each. Some of these phenotypes describe children that continue to wheeze until later childhood while others describe those that continue to wheeze through adolescence and adulthood. Many of these early childhood wheezing phenotypes were determined retrospectively in longitudinal studies; therefore, it can be difficult to clinically distinguish between phenotypes during the early preschool school years given the variation in expression of both symptoms and risk factors over time. More importantly, their application to diverse populations is not established. This lecture will focus on the definition, characteristics, and risk factors specifically associated with that childhood pre-asthma phenotype that evolves into persistent asthma in later childhood and early adulthood. Relationships between these early life events and their effects on lung function development will be reviewed as well.