

Study suggests reduced lung function in infancy associated with wheeze later

February 19 2013

A study in Australia suggests that reduced lung function in infancy was associated with wheezing beyond childhood at 18 years of age, according to a report published Online First by *JAMA Pediatrics*, a *JAMA* Network publication.

Abnormal [airway function](#) is characteristic of asthma and chronic obstructive airways disease, and other studies have suggested that reduced [lung function](#) is already apparent in childhood and tracks through adulthood. However, the relationship between the age of onset of airway dysfunction and wheeze, a symptom of obstructive airways disease, has not been clarified, the authors write in the study background.

The study by David Mullane, M.D., of University College Cork, Ireland, and colleagues included participants from a [birth cohort](#) who had been followed from one month to 18 years. At age 18 years, 150 participants were assessed and 37 participants (25 percent) had recent wheeze and 20 (13 percent) were diagnosed with asthma, according to the results.

"To our knowledge, this study is the first to report an association between reduced lung function in [infancy](#) and wheeze beyond childhood," the authors note.

In the study, a total of 143 participants were categorized as having persistent wheeze (n=13), later-onset wheeze (n=19), remittent wheeze (n=15) and no wheeze (n=96). Compared with the no-wheeze group,

persistent wheeze was independently associated with reduced percentage of predicted maximal flow at functional residual capacity ($V'_{max}FRC$, mean reduction 43 percent). Compared with the no-wheeze group, persistent wheeze was also associated with atopy (a predisposition to [allergic reactions](#)) in infancy (odds ratio, 7.1); maternal asthma (odds ratio, 6.8) and active smoking (odds ratio, 4.8), according to the results.

"Unexpectedly, we observed that a reduced $V'_{max}FRC$ at age one month was associated with increased risk for wheeze only in young adults who were also current smokers. These results suggest that reduced early airway function and later exposures such as smoking are important to the cause of obstructive respiratory diseases in young adults. Interventions aimed at preventing young children with asthma symptoms and reduced lung function from smoking might prevent persisting symptoms of obstructive airways disease," the authors comment.

More information: *JAMA Pediatrics* February 18, 2013.
[doi:10.1001/jamapediatrics.2013.633](https://doi.org/10.1001/jamapediatrics.2013.633)

Provided by JAMA and Archives Journals

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