

# Obesity worsens lung function for kids, young people with asthma

October 14 2015, by Julia Evangelou Strait

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Robert Strunk, MD, examines LeBron Reed, a patient with asthma. Strunk, of Washington University School of Medicine in St. Louis, led a study showing the importance of children with asthma maintaining healthy weight as they grow into young adults. Credit: Robert Boston

In adults with asthma, patients who are obese have worse lung function and more difficulty controlling their symptoms than asthma patients who are not obese. Following patients from childhood into young adulthood, a new study shows the progression toward worse lung function in those who become obese as they age.

The study, from Washington University School of Medicine in St. Louis, followed more than 750 children ages 5-12 into [early adulthood](#). No

participants were obese at the beginning of the study, but by their early 20s about 25 percent were.

The research is reported in the September-October issue of *The Journal of Allergy and Clinical Immunology: In Practice*.

The researchers found that pediatric [asthma patients](#) who had become obese by early adulthood had measurably worse lung function—determined by testing how powerfully a person can exhale—in their early 20s than those with asthma who did not become obese in early adulthood. But, surprisingly, the two groups showed no difference in the severity of their asthma symptoms, which were assessed by questionnaires asking about, for example, shortness of breath and use of corticosteroids.

These findings differ from research in older obese people with asthma, who have more difficulty controlling their symptoms and need more medications as a result.

"Our study suggests that younger obese patients can expect worsening lung function as they age," said Robert C. Strunk, MD, the Donald B. Strominger Professor of Pediatrics. "We want to emphasize, yet again, that doctors and patients need to pay attention to weight."

Strunk explained that lung function, determined with a number of breath tests, is a more objective measure than assessments of a patient's asthma symptoms and how they're controlled, which rely on questionnaires and patient accounts of medication use.

"We expected to see worse asthma symptoms in the patients who became obese, not just worse lung function," said Strunk, who treats patients at St. Louis Children's Hospital. "It's encouraging that they don't report worse [asthma symptoms](#), but it's worrisome that their lung

function has clearly gotten worse."

In patients with reduced [lung function](#), the researchers measured more airway obstruction than in healthier participants. When taking deep breaths and then forcing the air out as fast as possible, the obese patients couldn't expel air as fast as nonobese patients. But there was no difference in the total volume of air the two groups expelled.

The patients in the trial were enrolled in a nationwide study called the Childhood Asthma Management Program, originally designed to determine how best to treat asthma in children. In 2000, the study produced a landmark paper in *The New England Journal of Medicine* that changed the standard of care for children with asthma because it demonstrated that regular medications were superior to as-needed asthma treatments.

"That paper launched a whole new approach to childhood [asthma](#) management, changing the guidelines for physicians treating these [patients](#)," Strunk said. "We were fortunate to be able to continue following this group of children all the way to their mid-20s. Nobody had been able to do that before. We could answer a lot of questions with data gathered over such a long period of time."

**More information:** Robert C. Strunk et al. "Airway Obstruction Worsens in Young Adults with Asthma Who Become Obese," *The Journal of Allergy and Clinical Immunology: In Practice* (2015). [DOI: 10.1016/j.jaip.2015.05.009](https://doi.org/10.1016/j.jaip.2015.05.009)

Provided by Washington University School of Medicine in St. Louis

Citation: Obesity worsens lung function for kids, young people with asthma (2015, October 14)

retrieved 4 May 2024 from

<https://medicalxpress.com/news/2015-10-obesity-worsens-lung-function-kids.html>

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