

No link between genetic ancestry, asthma response in African-Americans

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Genetic ancestry has no discernible influence on how African American patients with asthma respond to medication, according to a Henry Ford Hospital study.

Researchers found that improved [lung function](#) in patients after taking inhaled steroids was related to a series of baseline breathing function measures, not genetic [ancestry](#). The study is published online at the *Journal of Allergy & Clinical Immunology*, <http://www.aaaai.org/media/jaci/>

Advances in genetics have led to the development of ancestry markers spread across the human genome, which allow genetic ancestry to be easily and inexpensively estimated among African Americans. It has the potential to be a useful tool in predicting the severity of common conditions among African Americans and fostering the development for more personalized medicine.

"However, our study found that genetic differences due to ancestry probably contributed to little, if any, difference in how African Americans responded to inhaled corticosteroids," says Wendy Gould, M.D., the study's lead author and a fellow in Allergy & Immunology at Henry Ford Hospital.

More than 20 million Americans, or approximately 1 in 15, suffer from [asthma](#), which accounts for nearly 500,000 hospitalizations in the United States annually, according to the American Academy of Allergy, Asthma

and Immunology. African Americans appear to be especially prone to asthma and its complications, which result in more frequent emergency department visits and hospitalizations when compared with white individuals.

Because of that susceptibility, Henry Ford researchers set out to determine what role, if any, genetic ancestry plays in how well African Americans respond to inhaled corticosteroids, which is considered the most effective class of medication for controlling asthma.

Researchers followed 147 African-American asthma patients aged 12-56 who were treated with inhaled steroids for six weeks. Their breathing function was tested before and after the six-week treatment protocol. Genetic testing was done on DNA isolated from a single blood sample.

"This is one of the first studies to use [genetic ancestry](#) to help clarify whether response to medication differs from race or ethnic groups," says Keoki Williams, M.D., MPH, the study's senior author. "Fortunately, our results suggest that this potentially life-saving asthma medication is equally beneficial across groups."

Provided by Henry Ford Health System

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