

Asthmatics less able to fight off flu

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People with asthma are likely to have worse symptoms when they get the flu because they have weaker immune systems, new Southampton research has shown..

A study led by Dr Ben Nicholas, of the University of Southampton, and published in the *Journal of Allergy and Clinical Immunology*, assessed lung samples from [asthmatics](#) and healthy volunteers.

The samples were exposed to influenza and their reactions analysed.

Dr Nicholas, who led the study under the NIHR Southampton Respiratory Biomedical Research Unit, said: "We wanted to look into whether [immune](#) system differences explain why asthmatics are more likely to end up in hospital if they get flu than the general population. This is important, as flu can cause a person's [asthma symptoms](#) to get worse. The samples from healthy people showed a strong immune system-triggering reaction to the flu virus. But in lung samples from asthma patients, this reaction was much weaker.

"We hope these results help researchers better understand why asthmatics are more affected by influenza and help find new treatments for common lung infections, which often make asthma symptoms worse."

The research method Dr Nicholas used is unlike other techniques, which separate and grow a single layer of cells in a dish. Instead, Dr Nicholas kept the whole sample intact which allowed him to study a pin-head

sized piece of lung in the lab, as it would be found in the body.

The study was supported by, and conducted in collaboration with Synairgen, a University of Southampton spin-out company, and formed part of U-BIOPRED, a large-scale European project using information and samples from adults and children to learn more about different types of asthma.

More research is now needed to investigate whether the difference in immune responses is due to the [asthma](#) itself, or the daily medications used by participating asthmatics to control their condition.

More information: Ben Nicholas et al. Susceptibility to influenza virus infection of bronchial biopsies in asthma, *Journal of Allergy and Clinical Immunology* (2017). [DOI: 10.1016/j.jaci.2016.12.964](https://doi.org/10.1016/j.jaci.2016.12.964)

Provided by University of Southampton

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