

# Researchers find age not factor in immunity to viruses

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Our immune system does not shut down with age, says a new study led by McMaster University researchers.

A study published in *PLOS Pathogens* today shows a specialized class of immune cells, known as [T cells](#), can respond to [virus infections](#) in an older person with the same vigour as T cells from a young person.

"For a long time, it was thought the elderly were at a higher risk of infections because they lacked these immune cells, but that simply isn't the case," said Jonathan Bramson, the study's principal investigator. "The elderly are certainly capable of developing immunity to viruses."

Researchers at McMaster, University of Toronto and the University of Pennsylvania examined individuals, younger than 40, between 41 to 59 years of age and older than 60, infected with three different viruses, including West Nile, and found the older group demonstrated perfectly normal immune responses.

Both the number of virus-fighting T cells and the functionality of the T cells were equivalent in all three groups.

"So as we age, our bodies are still able to respond to new viruses, while keeping us immune to viruses we've been exposed to in the past," Bramson said.

He added that these results have important implications for vaccination

of elderly individuals.

Currently, vaccines for the elderly aren't designed to elicit responses from these [immune cells](#), and this might explain the lack of effective protection from the [flu vaccine](#), he said.

Vaccines specifically designed to generate T-[cell immunity](#) may be more effective at protecting older adults, Bramson said.

**More information:** Lelic A, Verschoor CP, Ventresca M, Parsons R, Eveleigh C, et al. (2012) The Polyfunctionality of Human Memory CD8+ T Cells Elicited by Acute and Chronic Virus Infections Is Not Influenced by Age. PLoS Pathog 8(12): e1003076.  
[dx.plos.org/10.1371/journal.ppat.1003076](https://doi.org/10.1371/journal.ppat.1003076)

Provided by McMaster University

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