

Building a better flu vaccine: Add second strain of influenza B

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Robert Belshe, M.D., director of Saint Louis University's Center for Vaccine Development, has found that adding a second influenza B virus strain like would improve a vaccine's ability to prevent the flu. Credit: Saint Louis University photo

Vaccines likely would work better in protecting children from flu if they included both strains of influenza B instead of just one, Saint Louis University research has found.

"Adding a second influenza B [virus strain](#) to the seasonal influenza [vaccine](#) would take some of the guesswork out of strain selection and help improve the vaccine's ability to prevent influenza," said Robert Belshe, M.D., lead investigator and director of the Center for [Vaccine Development](#) at Saint Louis University.

"Since in five of the last 10 years, the influenza B component in the vaccine has been the incorrect one, this seems like an obvious advance to me."

Every spring, scientists predict which strain of influenza will be circulating in the community the following fall. Historically, they choose two different subtypes of influenza A and one of influenza B. When they choose the wrong strain of influenza B, the [influenza vaccine](#) is less effective in preventing the disease.

Research findings in the March issue of *Vaccine* highlight the importance of adding both lines of influenza B into the vaccine to better protect against the flu.

The research team examined how well current vaccines protect against influenza B by looking at the [immune response](#) of ferrets that were given FluMist, a live attenuated influenza vaccine manufactured by MedImmune, and at efficacy studies in children who received traditional flu shots or FluMist.

When ferrets were vaccinated against influenza, the ferrets that were exposed to a strain of influenza B virus that did not match what was in the vaccine didn't have a strong antibody response. However they had a vigorous antibody response when given a vaccine that contained both strains of influenza B. This showed that immunizing against one strain of influenza B does not appear to protect against the other strain and that a vaccine containing both influenza B strains is likely to offer greater protection from flu.

Similarly, children who received influenza vaccines that contained a strain of influenza B that matched what was circulating in the community were less likely to get the flu than those whose vaccines didn't match the circulating strain of influenza B.

"These data highlight the need for vaccination strategies that provide enhanced protection against both lineages of influenza B," Belshe said.

"The pathway to further improving influenza vaccines for children is to include antigens of both [influenza](#) B virus strains in the vaccine."

Provided by Saint Louis University

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