

Chickenpox vaccination lowers risk of pediatric shingles

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Children who receive the chickenpox (varicella) vaccine are significantly less likely to contract shingles, according to a new study led by researchers at the Kaiser Permanente Center for Health Research published today in the journal *Pediatrics*.

Shingles, or herpes zoster, is caused by the varicella-zoster virus, the same virus that causes chickenpox. According to the Centers for Disease Control and Prevention, there are an estimated 1 million cases of HZ each year in the United States. However, pediatric HZ is a [rare disease](#), and the symptoms are usually milder for children compared with adults, who typically report a painful, burning, and blistering skin rash.

"Since the introduction of the chickenpox [vaccine](#), we have known how effective it is in preventing children from contracting that itchy and painful disease, but we set out to determine if the vaccine would also reduce risk of [herpes zoster](#)," explained lead investigator Sheila Weinmann, Ph.D. "Our findings demonstrate that the vaccine does reduce the likelihood of shingles in kids, highlighting the dual benefits of the chickenpox vaccine."

The study, funded by the CDC, looked at the [electronic health records](#) of more than 6.3 million children between 2003 and 2014, using data from 6 integrated health care organizations. Approximately 50% of the children were vaccinated for some or all of the study period.

Researchers found that, overall, HZ risk is much lower in vaccinated

than unvaccinated children. Specifically, they concluded the following:

- Over the 12-year period of the study, the rate of pediatric HZ declined by 72% overall as the number of vaccinated children rose.
- Incidence of HZ was 78% lower in vaccinated children than in unvaccinated children.
- Rates for immunosuppressed children, who were unable to receive the vaccination, were 5- to 6-times higher than for those who were not immunosuppressed.

"We looked at the incidence rates of HZ overall, at how many cases there were per 100,000 person-years, including by age and gender," noted Weinmann. Person-years refers to the type of measurement that takes into account both the number of children who were included in the HZ study and the amount of time each child spent in the study over its 12-year course. "We saw the highest rates of HZ in the early years of the study when there was a higher proportion of children, particularly older children, who had not received the varicella vaccine."

The rate of HZ among children who were unvaccinated climbed from 2003 to 2007 and then declined sharply through the end of the study period. Increasing rates of vaccination over the study period reduced the risk of contracting HZ overall for all children, including those who were unvaccinated. The decline could also have been related to the introduction of the second vaccine dose beginning in 2007, as HZ incidence was much lower in those [children](#) who received the 2-dose vaccinations rather than 1-dose vaccination.

Provided by Kaiser Permanente

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