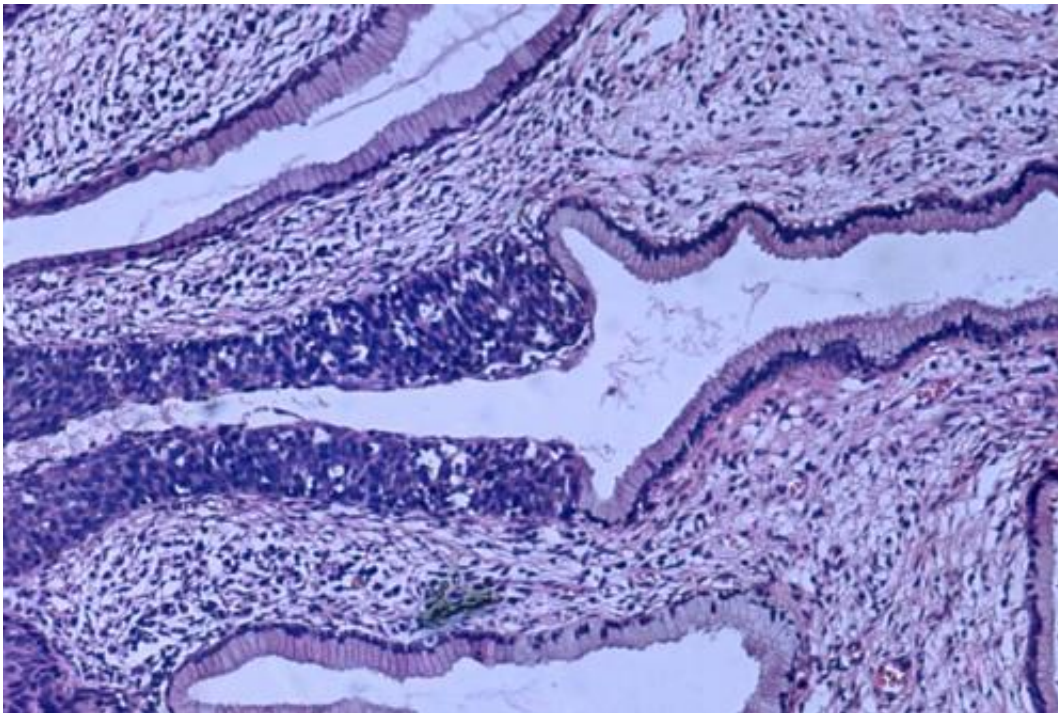


Single HPV vaccine dose may be effective against cervical cancer: study

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High grade dysplasia (carcinoma in situ) in the uterine cervix. The abnormal epithelium is extending into a mucus gland to the left of centre. This disease can progress to invasive cancer (squamous cell carcinoma) of the cervix. Credit: Haymanj/public domain

New research indicates that a single dose of the human papillomavirus (HPV) vaccine is as effective as multiple doses for preventing preinvasive cervical disease, which can later develop into cervical cancer. The findings are published early online in *Cancer*, a peer-

reviewed journal of the American Cancer Society (ACS).

HPV is the most common sexually transmitted infection in the United States, and persistent infection with certain types of the virus can cause cervical [cancer](#). To prevent infection, the Centers for Disease Control and Prevention [recommends](#) that adolescents—both boys and girls—under the age of 15 years receive a two-dose schedule of the HPV vaccine. To determine the effectiveness of other dose schedules, Ana M. Rodriguez, MD, MPH, of The University of Texas Medical Branch at Galveston, and her colleagues examined information on females aged 9 to 26 years who were unvaccinated or who received one or more HPV vaccine doses between January 2006 and June 2015.

The analysis included 133,082 females (66,541 vaccinated and 66,541 unvaccinated). For females ages 15 to 19 years, those who received one, two, or three doses of the HPV vaccine had lower rates of preinvasive cervical disease than adolescents who were unvaccinated. Within five years, 2.65 percent of unvaccinated teens aged 15 to 19 years developed preinvasive cervical disease, compared with 1.62 percent, 1.99 percent, and 1.86 percent in the one-, two- and three-dose groups, respectively. The risk of preinvasive cervical disease was 36 percent, 28 percent, and 34 percent lower for adolescents who received one, two, and three doses, respectively, compared with adolescents who were unvaccinated.

For the youngest (less than 15 years old) and oldest age groups (20 years and older), the investigators did not find significant differences among the vaccinated groups in terms of risk for preinvasive cervical disease.

"This study shows the impact of vaccinating at younger ages and its lasting long-term protection against [cervical cancer](#)," said Dr. Rodriguez. "It is important to educate parents about the need to vaccinate their children."

An accompanying editorial discusses the public health implications of the study's findings. "If one dose of HPV vaccine was sufficient for effective protection, HPV [vaccine](#) implementation and scale-up would require less logistics..., available doses could extend further, and the overall cost would be lower," the authors wrote.

February is National Cancer Prevention Month.

More information: "Comparison of the long-term impact and clinical outcomes of fewer doses versus standard doses of human papillomavirus vaccine in the United States: a database study." Ana M. Rodriguez, Burak Zeybek, Micah Vaughn, Jordan Westra, Sapna Kaul, Jane R. Montealegre, Yu-Li Lin, and Yong-Fang Kuo, PhD. *Cancer* (2020). [DOI: 10.1002/cncr.32700](https://doi.org/10.1002/cncr.32700)

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