**HPV vaccine for genital warts and cervical cancer** [1]

Dear Alice,

I recently began hearing rumors about an HPV vaccine in the works. Do you know anything about the HPV vaccines being tested and when they might be available? Also, will the vaccines cure HPV or just prevent it? Thanks in advance.

Yours,

J

Answer

Dear J,

Those rumors are true! In 2006, the Food and Drug Administration [2] (FDA) approved the first vaccine (Gardasil) that protects against certain strains of human papillomavirus (HPV). Over 100 strands of HPV have been identified, and at least 40 strands can affect the genitals. Two strains, HPV-6 and HPV-11, are responsible for approximately 90 percent of genital warts. Two other strains, HPV-16 and HPV-18, cause approximately 66 percent of cases of cervical cancer. Though these vaccines (of which there are three available in the United States) are a great tool in preventing HPV-related disease, it's good to know that they do NOT cure HPV.

The three FDA-approved HPV vaccines on the market include:

- **Gardasil (4vHPV vaccine)**, which provides protection against the four previously mentioned strains.
- **Cervarix (2vHPV vaccine)**, which was approved in 2009. It provides protection against HPV-16 and HPV-18 only.
- **Gardasil-9 (9vHPV vaccine)**, approved in 2014, gives protection against the same four strains as the original Gardasil, as well as five additional HPV strains (HPV-31, HPV-33, HPV-45, HPV-52, and HPV-58). These five strains cause approximately 15 percent of cervical cancers and are not covered by the other HPV vaccines. Additionally, it has the potential to prevent 90 percent of cervical, vulvar, vaginal and anal cancers.

All of the vaccines are given as a series of three injections over a six month period, and no serious side effects have been reported. To claim the most benefit from these vaccines, it's recommended that they be administered to folks who are not yet sexually active. Doing so reduces the chances that they've already been exposed to the strains covered by the vaccines. However, people may still receive the vaccines regardless of history of genital...
warts, an abnormal Pap/HPV test, or precancers within the genital area. The vaccines may protect against strains that have not already been acquired in those individuals.

The Advisory Committee on Immunization Practices (ACIP) [3] recommends that:

- For females, routine vaccination can begin between the ages of eleven and twelve with any of the HPV vaccine formulations. However, vaccinations can begin as early as age nine and be administered up to age 26.
- For males, routine vaccination can begin between ages eleven and twelve with either the 4vHPV or 9vHPV formulations. That being said, vaccinations can begin at age 9 up to age 21. For men who have sex with men (MSM) or men who have compromised immune systems (e.g., those who are HIV positive), the recommendation for vaccination extends to age 26.

For people who are older than 26, health care providers may administer the vaccines on a case-by-case basis (which is referred to as ?off-label? use [4]).

As is common with new vaccines, it's unclear at this point how long the protection will last. Ongoing studies aim to determine long-term efficacy of the vaccine. Researchers plan to follow up with young girls and boys who?ve been vaccinated up to ten years after completing the immunization series to determine their HPV status at that time.

Though these vaccines may prevent some diseases or conditions caused by certain strains of HPV, they do not protect against other sexually transmitted infections (STIs). As such, it's still good to use condoms or other barrier methods (such as dams) during sex to reduce the risk of STI transmission. Receiving the vaccine is also not a replacement for getting regular Pap smears because, even with the vaccine, it's still possible to get some strains of HPV. Pap tests are a great tool for detecting pre-cancerous or cancerous changes in the cervix, and early treatment for cervical cancer or pre-cancer is very effective. If you?re interested in getting vaccinated, make an appointment to talk with your health care provider. To learn more about HPV and other STIs, check out the Go Ask Alice! Sexually Transmitted Infections [5] category in the Sexual & Reproductive Health [6] archives.

Alice!
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