Dear Alice,

I am 28 years old, and became sexually active two years ago. My husband is the only man I've ever had sex with, and I am his only sexual partner as well. Where does the gene or whatever it is that the HPV vaccine helps guard against come from? Because I'm too old to get the vaccine, are my chances of getting cervical cancer from this particular gene increased then? Thank you for your help.

Answer

Dear Reader,

First, to clear up some confusion: although the likelihood of getting certain types of cancer may be passed down through genes, cervical cancer isn't one of those cancers. Instead, most cases of cervical cancer are caused by different strains, or types, of a virus known as the human papillomavirus (HPV). The vaccine currently available on the market protects against the most common strains of HPV, some of which are associated with cervical cancer (HPV itself isn't a form of cancer, it's a virus). Second, due to recent changes, the vaccine has actually been approved for use in people up to age 45, so you may still be able to get vaccinated!

HPV doesn't come from a gene, nor does it affect any genes that you pass on to others. An HPV infection occurs when the virus enters the body, usually through a cut, abrasion, or small tear in the skin — therefore, transmission most often happens via skin-to-skin contact during sexual activity. HPV is a common viral infection, though many infected people never have any symptoms and the virus often clears from the system on its own. In some people, certain strains of HPV may cause symptoms, including genital warts or precancerous lesions in the genital area that could, if left untreated, lead to cancer (including cervical, anal, and throat cancers).
The U.S. Food and Drug Administration (FDA) has approved three vaccines to prevent the disease-causing HPV types, though just one remains on the market in the United States. Up until 2018, the vaccines weren't approved for those over the age of 26, but the FDA has expanded that range to include people up to the age of 45. While the vaccines provide protection against HPV to folks who haven't previously been exposed to these strains of HPV, keep in mind it's not a cure for people who've already been infected with these strains.

According to Mayo Clinic, risk factors that can make someone more likely to contract HPV include:

- Number of sexual partners
- Younger age
- Weakened immune system
- Damaged skin
- Coming into contact with an HPV infection

Vaccinated or not, regularly getting a Pap smear (a simple test of cells from the cervix) helps in discovering any cervical abnormalities before they develop into cancer. It's recommended that people have an initial Pap smear within three years of having sex for the first time or at age 21, then discuss with their health care providers about the timing of subsequent exams. There's not an equivalent HPV screening test for those without a cervix — if they're concerned about HPV or genital warts, they may speak with a health care provider for more information about risk and transmission.

Even if you're at low risk for getting cervical cancer, you may want to consult with your provider about whether the vaccine or other prevention measures are right for you. Having regular Pap smears, limiting the number of sexual partners, and practicing safer sex may all go a long way in steering clear of HPV, and the warts or cervical lesions that may result.

Alice!

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