

## ASCO Expert Corner: HPV Vaccination for Cervical Cancer



Most cervical cancers are caused by infection with the human papillomavirus (HPV). HPV is the most common sexually

transmitted infection in the United States. Although many women infected with the virus eventually clear the infection, some women develop a persistent (lasting) infection, which is a risk factor for cervical cancer. Approval of two HPV vaccines has prompted questions about the use and effectiveness of these vaccines. To help answer common questions, Cancer.Net discussed the HPV vaccine with Maurie Markman, MD. If you have specific questions, talk with your doctor about whether one of these vaccines is appropriate for you.

### **Q. What is the purpose of the HPV vaccine, and who needs to be vaccinated?**

A. The goal of this vaccination is to prevent the establishment of a *persistent HPV infection* after a person has been exposed to the virus through sexual contact. Strong scientific evidence demonstrates that a persistent HPV infection is required for cervical cancer to begin developing.

In 2006, the U.S. Food and Drug Administration (FDA) approved the first HPV vaccine, called Gardasil, for use in girls and women between the ages of 9 and 26. The vaccine helps prevent infection from the two HPVs known to cause most cervical cancers and precancerous lesions in the cervix. The vaccine also prevents against the two low-risk HPVs known to cause 90% of genital warts. In 2009, FDA approved a second HPV vaccine, called Cervarix, for the prevention of cervical cancer in girls and women ages 10 to 25; it also approved the use of Gardasil in boys and men ages 9 through 26 to prevent genital warts.

### **Q. How effective is the vaccine?**

A. Several large clinical trials have revealed that the vaccine is highly effective in preventing precancerous cervical lesions, assuming a woman does not have a preexisting (before vaccination) persistent HPV infection. Because it takes many years before a precancerous lesion develops into an invasive cancer, it will likely take at least a decade before there will be evidence that the number of new cases of cervical cancer in vaccinated individuals has been reduced. However, in view of the known very strong association between persistent HPV infection, the development of precancerous cervical lesions, and cancer of the cervix, it is essentially certain a substantial reduction in the risk of cervical cancer will be clearly seen with sufficient time for follow-up.

### **Q. Does the vaccine work right away? How long does it last?**

A. The vaccine appears to be very effective in preventing persistent HPV infection, as long as there is no preexisting infection with the virus. It is important to note that the vaccine will not eliminate an existing persistent HPV infection.

It is currently unknown how long a single series of vaccinations with the HPV vaccine will last, and if revaccination will be required, and how often. Existing data suggest that immunity against the development of an infection upon exposure to the virus will last a minimum of three to five years, and perhaps much longer. Further follow-up of people who received the vaccine in clinical trials will provide important information regarding if, and when, the necessary degree of immunity decreases to a point where re-immunization is required.

### **Q. How does this vaccine affect a woman's need for a regular Pap test?**

A. There have been no specific recommendations for how HPV vaccination should influence existing, well-established guidelines for regular Pap tests. For now, it is strongly recommended that current guidelines should be followed. This important issue will be directly addressed in the future by experts in this area.

### **Q. What are the most important things a patient should know about the HPV vaccine?**

A. Existing data indicate HPV vaccination is both safe and highly effective in preventing persistent infection by a virus known to be the cause of cervical cancer. It is extremely important that patients understand this vaccine works to *prevent a persistent HPV infection*, but it is *not* an effective treatment to eliminate such an infection once it is established.

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