Human Papillomavirus

Traveler Summary

Key Points

- Human papillomavirus (HPV, a group of more than 40 virus types) is a sexually transmitted viral infection occurring worldwide.
- Risk exists for unvaccinated, sexually active travelers, regardless of age. Previous infection with one HPV type does not prevent subsequent infection with other types.
- Symptoms include lesions in or on the skin, genitals, or mucous membranes.
- Consequences of infection may include cancers of the cervix, vagina, penis, anus, or throat.
- Prevention includes comprehensive sex education (e.g., positive and affirming approach to human sexuality) and strong recommendations for vaccination; condoms are not fully protective.
- HPV vaccine is routinely given to both females and males (whether or not they have been sexually active) aged 11-26 years as a 2- or 3-dose series over a period of 6 or 12 months, depending on age at series initiation. Vaccination may be considered for unvaccinated persons aged 27-45 years.
- Vaccine side effects are mild to moderate and include injection-site reactions, fever, dizziness, and headache.
- Vaccine protection is long-lasting; no booster dose is recommended.

Introduction

HPV infection is the most common sexually transmitted infection (STI) worldwide. HPV infections can range from common benign genital warts to cancers of the genital area, anus, and back of the throat (oropharyngeal) in females and males. Cervical cancer is the fourth most common cancer in females. Most HPV infections are symptom free and resolve spontaneously, although persistent infections can occur. Although treatments are available for the health problems caused by HPV, no cure exists for HPV infection itself.

Risk Areas

Humans are the only natural reservoir for HPV and HPV infection is the most common sexually transmitted infection worldwide. In the US, approximately 79 million people are currently infected with HPV and another 14 million still become newly infected each year. On average, 11,000 new cases of cervical cancer, 12,000 new cases of oropharyngeal cancer, and 3,900 deaths attributed to HPV occur annually in the US. At least 50% of sexually active females and males become infected at some point in their lives.

Transmission

HPV infections are sexually transmitted from person to person through genital and skin-to-skin contact or oral sex and generally occur soon after the first sexual activity. A pregnant female with genital HPV infection can pass the infection to her newborn during delivery, although this is rare. More than 40 different types of HPV exist; persons who are sexually active and already infected with 1 or more HPV types are still susceptible to primary infection by new HPV types. Nonsexual transmission occurring through self-transmission from one body site to another or through contact with contaminated surfaces, sex toys, or undergarments is theoretically possible but has not been fully demonstrated.

Risk Factors

Risk is highest for unvaccinated, sexually active females and males (regardless of age). Risk is determined mainly by exposure rather than age, regardless of relationship status. However, persons in long-term, mutually monogamous sexual relationships are not likely to acquire a new HPV infection. Certain populations, such as men who have sex with men, persons with HIV, and immunocompromised persons, may be at higher risk for conditions associated with HPV or may have a lower immune response to the vaccine.

Symptoms

Most persons infected with HPV do not develop symptoms because the body's immune system clears HPV naturally within 1 to 2 years in most cases. Persistent HPV infections with low-risk types can cause genital warts or warts in the throat.

Consequences of Infection

HPV infection with high-risk types increases the risk for developing cancers of the cervix (most common), vulva, vagina, penis, anus, or throat several decades later; identifying which cases will progress to cancer is not possible.

Need for Medical Assistance

Persons who develop symptoms of HPV infection should seek medical attention. No treatment exists for the virus itself, but treatments are available for diseases caused by HPV.

HPV vaccine is not intended to be used for treatment and is only protective against the HPV types contained in the vaccine.

Prevention

Nonvaccine

The most effective way to avoid HPV infection, in addition to vaccination, is avoidance of sexual contact, observing safer-sex practices, and comprehensive sex education (e.g., positive and affirming approach to human sexuality). Condoms are not fully protective.

Vaccine

HPV vaccine (Gardasil 9; protective against 9 different HPV types) is routinely recommended for persons aged 11-12 years (with catch-up vaccination through age 26 years for those inadequately vaccinated) and for children 9 years and older who have a history of sexual abuse or assault. Ideally, vaccination should occur before potential exposure to HPV through sexual activity. HPV vaccination may be considered for unvaccinated or inadequately vaccinated persons aged 27-45 years following shared clinical decision-making. This discussion should weigh the available evidence on risk and benefits, the patient’s risk behaviors, values, and preferences.

In persons already infected with 1 or more HPV serotypes, subsequent vaccination does not prevent progression to cancer, decrease the time to clearance of HPV infection, or treat HPV-related diseases. However, vaccination is still recommended to prevent infection with other serotypes.

Vaccination is not a substitute for regular cervical cancer screening in females; prevaccination screening is not required prior to HPV vaccination. Duration of protection from HPV vaccination is long-lasting; booster doses are not recommended.

Side Effects

The most common vaccine side effects are mild to moderate and include injection-site reactions (pain, redness, warmth, and swelling), fever, nausea, dizziness, and headache. Serious side effects include allergy and asthmatic crisis.

Persons with underlying medical conditions or who have concerns about the vaccine should speak to their health care provider before vaccine administration.

Timing

The primary series consists of 2- or 3-doses given over a period of 6 to 12 months, depending on age at series initiation.

If earlier protection is needed, a 2- or 3-dose series over a period of 5 months (depending on age at series initiation) will provide protection for healthy persons.