

PUBLIC HEALTH FACT SHEET

Patient information about HPV and the HPV vaccine**What is HPV?**

HPV (human papillomavirus) is a highly contagious virus that is spread by skin-to-skin contact. It can infect the skin, the mouth, the rectum and the anus. It can also infect both male and female genital areas, including the skin on the penis or the vulva (area around the vagina), as well as the lining of the vagina and the cervix (the lower part of the uterus that is connected to the vagina). There are over 100 types of HPV, about 40 of which can be sexually transmitted.

What are the signs and symptoms of genital HPV infection?

HPV can live on the skin or mucous membranes, including those in the genital tract, without causing any signs or symptoms. Most people do not know that they are infected with HPV, and most people infected with HPV will eventually clear the infection on their own without treatment.

HPV can cause warts, or papillomas. Certain types of HPV (called "low-risk" types) cause common skin warts that often appear on the hands and feet. Other types of low-risk HPV can cause genital warts. Genital warts are single or multiple growths or bumps that often resemble a bumpy piece of cauliflower and can appear on the vulva, vagina, cervix, penis, scrotum, groin or thigh. These warts may appear weeks to months after sexual contact with a person who is infected.

Does HPV cause cancer?

Yes, it can. Infection with some types of HPV, called "high-risk" HPV, does not cause warts but occasionally leads to cancer of the cervix. More rarely, these types of HPV can also lead to cancer of the vulva, vagina, anus or penis. Cervical cancer will develop in about 1 in 138 (0.7%) Canadian women in their lifetime. Every year there are 1300 new cases diagnosed. Among Canada's 11

million women aged 15–64, 400 will die from cervical cancer each year, making it the 13th most common cause of cancer-related deaths.

How is HPV transmitted?

HPV is one of the most common sexually transmitted infections in Canada and around the world. As many as 75% of people who are sexually active will have at least 1 HPV infection in their lifetime. Genital HPV can be spread by sexual touching and by other types of sexual activity, such as intercourse.

Rarely, a pregnant woman with a genital HPV infection can pass HPV to her baby during vaginal delivery. These babies may develop an HPV infection of the mouth, voice box or throat.

How are HPV infections diagnosed?

Genital warts are diagnosed by looking at the genital area.

An HPV infection of the cervix can be detected by a Papanicolaou (Pap) smear, which involves collecting cells from the cervix. These cells are sent to a laboratory to be checked for cancerous or precancerous changes caused by HPV infection.

All types of HPV can cause mild changes in the cells of the cervix. In 90% of women, these changes become undetectable within 2 years. About 10 of the 40 genital HPV types can lead to changes in the cervix that may become cancerous.

How can the risk be reduced?

Refraining from genital contact with another person or using a condom will reduce the risk of HPV infection. Condoms are not 100% effective because they only protect the covered area, and uncovered genital warts are infectious. Other forms of birth control, including diaphragms, birth control pills and IUDs, do not protect against HPV infection. Receiving a regular Pap smear is a very effective method of preventing disease caused by HPV infection.

In July 2006, Health Canada approved an HPV vaccine called Gardasil (Merck Frosst) for females aged 9–26. The HPV vaccine is not currently approved for males in Canada.

In studies, precancerous and cancerous changes of the cervix developed in 1% (86/8268) of unvaccinated females, and 0.01% (1/8301) of vaccinated females. Genital warts developed in about 3% (60/2278) of females who were unvaccinated, but in none who were vaccinated.

What is in the HPV vaccine?

The HPV vaccine contains purified, inactive proteins that come from the 4 most common types of HPV: HPV types 6 and 11 (which cause 90% of genital warts) and HPV types 16 and 18 (which cause 70% of cervical cancer). The vaccine does not protect against other types of HPV and does not contain any antibiotics or preservatives such as thimerosal.

How does the vaccine work?

Three injections of the vaccine are required, at 0, 2 and 6 months. The vaccine is primarily effective in females who have not yet been exposed to HPV; thus, it is recommended that females be vaccinated before they become sexually active. The vaccine offers protection for at least 5.5 years, and studies are being performed to determine whether a booster dose will be required.

Even with the vaccine, regular Pap smears are essential because the vaccine does not protect against all types of HPV that can cause cervical cancer.

Is the vaccine safe?

Yes. The most common side effect is soreness around the injection site in the arm. Few other minor side effects were reported in the studies.

How much does it cost?

In Canada and the United States, the vaccine costs between \$400 and \$500 for the 3 required doses, at about \$150 per dose. In the United Kingdom, each dose costs about £80, for a total cost of about £240.

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