Human papillomavirus (HPV)

The Immunisation Advisory Centre

What is HPV?
Human papillomaviruses are common viruses, some of which cause genital warts, various cancers and other diseases. There are more than 150 types of HPV, at least 14 are linked to cancer.

How do you catch it?
HPV is very contagious and can spread through skin to skin contact. HPV can be spread through sexual intercourse, including hand genital contact and oral sex (mouth-genital contact), and from infected mothers to their newborn baby during birth.

What are the symptoms of HPV infection?
Most HPV infections do not show any signs or symptoms and many people with HPV will clear the virus without any complications. An infected person can unknowingly spread the virus to others.

Genital warts can appear weeks or months following infection, presenting as raised or flat bumps in the male or female genital areas. They are described as soft, moist or flesh coloured, and often take a cauliflower shape.

What are the risks from HPV infection?
If left undetected, HPV infection can lead to cancers of the cervix, mouth, throat, vulva, vagina, penis and anus. Cancer can develop about 10—20 years after infection. It has been estimated that approximately one in 20 cancers worldwide are caused by HPV, including almost all cervical and most anal cancers. Both men and women are at high risk of cancers caused by HPV.

People with weakened immune systems, such as those with HIV infection or transplant recipients, are at a greater risk from persistent HPV infection and cancer.

How do you treat infection?
There is no treatment for persistent HPV infection.

Treatments for genital warts, depending on the location and severity of the warts, include solutions applied to the infected area or burning, freezing, laser or surgical removal of warts. These treatments cannot prevent the genital warts from reappearing.

Abnormal or precancerous cells caused by HPV can be treated, but many cancers are not detected early. Treatment varies depending on the severity and location of the cell changes or tumour, and can range from local removal to radiotherapy, chemotherapy or major surgery.

How do you prevent infection?
Immunisation with the HPV vaccine helps prevent infection with the most common HPV types. The best time for HPV immunisation is prior to any sexual activity, and the vaccine produces a better immune response in pre-teens than older teens.

Early detection of cancer is very important. Regular cervical smears can reduce a woman's risk of developing cervical cancer by 90%. It is important for all women to undergo regular cervical smear tests whether they have received the HPV vaccine or not.

Which vaccines protect against HPV?
Two HPV vaccines are currently available in New Zealand, Gardasil® and Gardasil® 9. Both vaccines protect against HPV 6 and 11 that cause approximately 90% of genital warts and cause respiratory papillomatosis (warty growths on vocal cords and throat).

Gardasil® also provides protection against the two highest cancer-risk HPV-types (16, 18) that cause approximately 70—80% of cervical and other HPV-associated cancers. Gardasil® 9 also provides protection against the seven highest cancer-risk HPV-types (16, 18, plus 31, 33, 45, 52, 58) that cause up to 80-95% of cervical and other HPV-associated cancers.

The vaccines do not contain the HPV virus, rather 'virus-like particles' which are purified from yeast cell culture.

How effective are the vaccines?
Immunisation with Gardasil® or Gardasil® 9 is highly effective in preventing HPV infection. In Australia, cervical abnormalities, cancer and rates of external genital warts are declining dramatically since the introduction of the vaccine in 2007.

How safe are the vaccines?
Gardasil® and Gardasil® 9 have excellent safety records. No serious adverse effects have been identified. The most common response is mild pain at the injection site (see table). Fainting (syncope) is a possible response to being injected in adolescents.

Gardasil® and Gardasil® 9 are fully interchangeable
- Individuals who begin with Gardasil® can complete their vaccine course with Gardasil® 9.
- The number and timing of doses is the same for both vaccines.
- There are no safety concerns with changing vaccine brands during a course of vaccines.

Who should have a course of HPV vaccine?
Gardasil® or Gardasil® 9 are recommended and funded for males and females aged 9 years to under 27 years. Non-residents must be aged under 18 years to start a course of funded vaccines.

A school-based immunisation programme for students in year 8 is available in most areas of New Zealand. Students who start their course of vaccines through a school-based programme can catch-up any missed doses through their family doctor.

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Complications of disease	**Vaccine responses**
• Genital warts • Cancers of the mouth, throat, vulva, vagina, cervix, penis and anus	**Common responses** • Mild pain, redness and swelling around injection site. • Fainting – more common in adolescent girls. **Rare responses** • Severe pain and swelling at injection site. • Severe allergic reaction (anaphylaxis).

Vaccines are prescription medicines. Talk to your doctor or nurse about the benefits or any risks.

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Who should have a course of HPV vaccine? (continued)

A course of Gardasil® or Gardasil® 9 vaccines is recommended and funded for males and females aged 9 years to under 27 years of age who have had a stem cell or solid organ transplantation, or chemotherapy and those who are HIV-positive.

Gardasil® or Gardasil® 9 is also recommended, but not funded, for males and females aged 27 years or older who have had little exposure to HPV in the past and are now likely to be exposed, are men who have sex with men or are HIV-positive. In women, immunisation with Gardasil® after surgery to remove cervical cells with high-grade abnormalities has been shown to reduce the risk of recurrence of similar high-grade abnormalities.

Who should not have the HPV vaccine?

Anyone with a severe allergy (anaphylaxis) to a previous dose of this vaccine or a component should not have this vaccine.

Further information

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