

## What is HPV?

Human papillomaviruses are common viruses, some of which cause genital warts, various cancers and other diseases. There are more than 200 types of HPV, at least 14 are linked to cancer. Without immunisation, around 80% of adults will have a HPV infection at some time in their life.

## 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, persistent HPV infection can lead to cancers of the throat, cervix, vulva, vagina, penis and anus. Cancer can develop 20 years or longer after infection. Almost all cervical cancers are caused by HPV infection.

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 burning, freezing or 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 detect precancerous cells and reduce a woman's risk of developing cervical cancer. 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?

The HPV vaccine Gardasil® was available in New Zealand from 2008 until it was replaced by Gardasil® 9 over 2017. Both vaccines protect against HPV 6 and 11 that cause approximately 90% of genital warts and cause respiratory papillomatosis (wart-like growths on vocal cords and throat).

Gardasil® also provides protection against the two highest cancer-risk HPV-types (16, 18) that cause around 70% of cervical and 85% of other HPV-related cancers. Gardasil® 9 also provides protection against the seven highest cancer-risk HPV-types (16, 18, plus 31, 33, 45, 52, 58) that cause around 90% of cervical 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 New Zealand, the incidence of genital warts in men and women has decreased by 75% since the introduction of the vaccine to girls in 2008.

When immunisation occurred before exposure to HPV-types, protection against precancerous cervical, vaginal or vulval lesions in women is around 96–100%, and against penile and anal cancers in men from 73–100%.

UK studies show the HPV vaccine has reduced the incidence of cervical cancer by 87% in women in their twenties, who were vaccinated between the ages of 12–13 years, compared to the unvaccinated group.

## 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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Human papillomavirus	
Complications of disease	Vaccine responses
<ul style="list-style-type: none"> <li>• Genital warts</li> <li>• Cancers of the mouth, throat, vulva, vagina, cervix, penis and anus</li> </ul>	<p><b>Common responses</b></p> <ul style="list-style-type: none"> <li>• Mild pain, redness and swelling around injection site.</li> <li>• Fainting – more common in adolescent girls.</li> </ul> <p><b>Rare responses</b></p> <ul style="list-style-type: none"> <li>• Severe pain and swelling at injection site.</li> <li>• Severe allergic reaction (anaphylaxis).</li> </ul>

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

## 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

- HPV New Zealand. Available from: [www.hpv.org.nz](http://www.hpv.org.nz)
- Time to screen. Cervical screening. Available from: [www.timetoscreen.nz/cervical-screening](http://www.timetoscreen.nz/cervical-screening)

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