



Updated 1-1-2022

HPV and vaccination

Source:

Health DK:

<https://www.sundhed.dk/borger/patienthaandbogen/kvindesygdomme/sygdomme/infektioner/hpv-vaccination/>

Facts

- Human Papilloma Virus (HPV) is the cause of more than 99% of cases of cervical cancer
- The HPV vaccine protects against cervical cancer and genital warts
- In Denmark, the vaccine against Human Papilloma Virus (HPV) is free for girls and boys up to 12 years of age.
- The vaccination is part of the childhood vaccination program.
- To get the optimal dose of the vaccine, you should preferably be vaccinated before sexual debut.
- The offer is voluntary and free.

Free vaccination

Vaccination against Human Papillomavirus (HPV) is offered to girls and boys at the age of 12 as part of the childhood vaccination program to protect against cervical cancer. Vaccination is done by your own doctor.

The offer applies to girls who have reached the age of 12 and the vaccinations must be completed before she reaches the age of 18. From 1 July 2019, HPV vaccination is free for boys who turn 12 on 1 July 2019 or later.

The vaccine

The vaccine covers 9 different types of HPV. Seven of these are protection against cervical cancer, the other two protect against genital warts (condyloma). It is estimated that the vaccine protects against 90% of cervical cancer cases. HPV vaccination does not protect against all cases, partly because cervical cancer can be caused by HPV types other than those vaccinated against. Therefore, girls who are vaccinated against HPV will later be called in for screening for cervical cancer - like all other women.

The HPV vaccine consists of artificially produced particles that resemble parts of the surface of true HPV virus. If you are vaccinated, you produce so-called antibodies against the virus. That is, one becomes immune and thus becomes protected against the mentioned HPV types if the body is exposed to it.

The vaccine is non-live, does not contain virus hereditary material and cannot cause HPV infection. It also does not contain trace elements of eggs or chicken, nor does it contain mercury.

Vaccination register

As for the other vaccines in the childhood vaccination program, the vaccine is registered electronically in the Danish Vaccination Register.

All vaccines in the childhood vaccination program are a voluntary offer. The same goes for HPV vaccination.

Parents must give consent before the child can be vaccinated. Girls and boys also have the right to information, and their opinion must be emphasized.



Why vaccinate?

Cervical cancer is caused by Human Papillomavirus (HPV). Over 70% of all cases and stages of cervical cancer are caused by HPV type 16 or 18. In addition to these two viruses, the vaccine protects against seven other types of HPV. It protects against almost 90% of all cases. To get the optimal benefit from the vaccine, one should preferably be vaccinated before sexual debut, ie. before becoming infected with the HPV virus. However, the vaccine can also have an effect after sexual debut, as it is not certain that you have been infected with HPV. A large decrease in the number of cervical cancers and precursors to cervical cancer is expected over the next few years because many girls become immune to these types of HPV.

HPV infection can also cause cancer here:

- On the external genitalia (the woman)
- In the vagina
- On the penis
- In the oral cavity
- On the tonsils
- In the rectum

In Denmark, free vaccination is offered to 12-year-old girls and boys. It is expected to lead to a "flock immunity", so that there will be fewer infections with the carcinogenic HPV types in the population as a whole.

See more under information about HPV.

Who gets HPV infection?

HPV infection is the most common sexually transmitted infection.

The vast majority, about 80%, of sexually active people become infected with the HPV virus at some point. The incidence of HPV infection is highest in adolescents in the first years after sexual debut. Often several HPV types are found at the same time.

There is a link between the number of sexual partners and the risk of getting one of the harmful HPV types.

In most cases, the infection gives no symptoms and fails to do harm. The body's immune system fights viruses and the infection passes without leaving a trace.

In about 10%, however, the infection becomes chronic. A chronic HPV infection can cause serious cell changes, which in turn can develop into cancer. The development of cervical cancer takes a long time, probably over 10 years.

The risk of a chronic infection depends on the body's ability to produce local antibodies, which prevent HPV from damaging the cells. There is not much knowledge about why some people get cell changes and others do not. HPV can be latent and be activated by a weakened immune system, e.g. in diseases affecting the immune system and in old age.

How to avoid HPV infection?

An HPV infection does not cause any symptoms and therefore one can not know if one is infected with HPV. There is no safe protection against HPV infection and condom use does not provide full protection.

HPV can also be transmitted from women to women

and by oral sex, and may cause HPV infection in the throat. Thus, there is a risk of cancer of the tonsils / pharynx. The virus can also be transmitted to the rectum, where it can cause cell changes and cancer.

Tobacco smoking does not affect the risk of getting HPV infection, but increases the risk of developing cell changes. This is because harmful substances accumulate in the mucous membranes.



The best way to assess if there is a harmful HPV infection present is for women to follow the regular screening offers with cell samples from the cervix.

Can others also be vaccinated against HPV?

Only girls and boys who meet the above requirements can be vaccinated for free. You can read more about this on the Danish Health and Medicines Authority's website

Theoretically, one can already be infected with HPV at the first sexual contact, but the risk of getting one or more HPV infections increases with age. Most sexually active men and women have had HPV infection.

For the time being, everyone other than those covered by the childhood vaccination program described above must pay for the vaccine themselves and possibly for the vaccination itself.

One can consider vaccinating people with a weakened immune system, e.g. HIV positive and people in treatment that weakens the immune system.

HPV vaccination after cone incision

The Danish Society for Gynecology and Obstetrics describes a theoretical effect of HPV vaccination for women who have had a cone incision, but does not recommend it directly. The rationale is both that the vaccine may create immunity against a virus that has already caused cell changes but also that it protects against the other viruses to which the woman may not yet be exposed. The advice should be given to the gynecologist in connection with the cone incision, and it is the individual doctor's assessment whether he or she will recommend the vaccine or not.

Side effects and safety

In Denmark and in many other countries, there has been a debate about whether the HPV vaccines were responsible for serious side effects in young girls. It is important when assessing side effects that you do not confuse them with conditions that occur in the same age group and that are only temporally related to the vaccine, but which are not due to the vaccine.

- The most common side effects are swelling and soreness in the arm where you have been stabbed. This disappears after a few days

Short-term fever, headache, nausea, vomiting, diarrhea and abdominal pain have also been reported

- Allergic reaction in the form of rash and itching is rare
- In very rare cases, more severe allergic reactions may occur

The more serious possible side effects described cover a wide range of symptoms from the nervous system from headaches to cramps and paralysis. It is important to emphasize that the National Board of Health has not found evidence of a connection between the vaccination and the symptoms, as these genes are also found in young girls who have not been vaccinated. Regardless of vaccination, some girls of the current age will get their first symptoms of other diseases such as diabetes, joint diseases and autoimmune diseases. Some of the symptoms after vaccination may be due to the vaccine, others occur during the same period of time by pure chance.

The National Board of Health continues to believe that the great effect of the vaccination clearly outweighs any side effects, both in the individual and in society as a whole.

Over 270 million doses of HPV vaccine have been given worldwide. In Denmark, more than 630,000 girls have been vaccinated. Up to and including September 2017, the Danish Medicines Agency has received 2,490 reports of suspected side effects. This corresponds to 0.4 per cent. of those vaccinated have reported a suspicion of a side effect, and less than 0.2 per cent. has reported a suspected serious adverse reaction. It is important to keep in mind that a reported suspected adverse reaction does not mean that the genes are due to the vaccine.



The side effects of the HPV vaccine are being closely monitored. In Denmark, professional and scientific assessments of possible side effects of the HPV vaccine are made by the Danish Health and Medicines Authority.

If you are worried about whether the HPV vaccine may be harmful to yourself or your daughter or son, it is important to familiarize yourself thoroughly with the knowledge that is. You can do this at the links below. There is very good information on social media, but it is important to keep in mind that there may be expressions of opinions and thoughts, and not necessarily for real knowledge.

How long does the HPV vaccine protect?

There are currently no signs that the effect of the vaccine will diminish over the years. If it turns out that the effect diminishes over time, it may be necessary to refresh the vaccine.

The World Health Organization (WHO) recommends that HPV vaccine be included in national childhood vaccination programs. The vaccine has been introduced in most European countries and the United States.

This is how the vaccination takes place

The vaccine is given in the upper arm and two or three vaccinations are given.

Before the vaccination, the doctor or nurse asks the girl or boy if there have been reactions to previous vaccines

- It is important to inform about possible use of medication, about allergies or about other health problems
- It is safe to be vaccinated, even if you have a cold or are a little out of shape in some other way. In case of acute illness and fever above 38 degrees, it is recommended that you wait with the vaccination
- As with all other vaccines, you must wait for approx. 20 minutes before going home after vaccination

Who should not get HPV vaccine?

Human Papillomavirus (HPV) vaccine should not be given to:

- People with known allergy to ingredients in the vaccine
- People who have had a severe reaction to previous doses of the same vaccine
- People with acute infectious disease with high fever above 38 degrees
- Pregnant