

CANCER OF THE CERVIX AND HUMAN PAPILLOMA VIRUS (HPV) INFECTION

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If you are reading this, you are already interested in your health, Bravo! Now, take one step further and answer the following questions. The answers to these questions will reveal to you the importance of the virus Human Papilloma Virus (HPV) in causing the dreaded cancer, the cancer of the cervix.

1. Cancer of the cervix is caused by a virus called HPV (Human Papilloma Virus)
True False
2. HPV (Human Papilloma Virus) is spread from one person to the other (transmitted) by sexual contact (by having sex), so it is called a Sexually Transmitted Infection
True False
3. Cancer of the cervix is a Sexually Transmitted Disease because the virus that causes it is spread (transmitted) from one person to the other by sexual contact (by having sex)
True False
4. The **only certain way** of avoiding infection with HPV is not to have sex
True False
5. Condoms will give some protection against HPV infection (not 100%)
True False
6. If someone has other Sexually Transmitted Infections (e.g. Chlamydia, Gonorrhoea, Herpes, Syphilis, HIV) they are more easily infected with HPV
True False
7. There is a new vaccine available to give protection against HPV infection
True False
8. This new vaccine is recommended for girls **before** they become sexually active
Would you want this vaccine for your daughter?
Yes No
9. Early changes before development of cancer of the cervix can be seen by the 'Pap' test (Papanicolaou test)
True False
10. If you get a 'Pap' test (Papanicolaou test) regularly, then you can prevent cancer of the cervix
True False

Cancer of the uterine cervix is the second most common malignancy of the female genital tract, second only to cancer of the uterine lining (endometrium). National statistics indicate that there were ~11,070 cases of cervical cancer in the United States in 2008 and ~3870 deaths from the disease.

If you answered 'true' to all the questions and also 'yes' to question 8, then excellent, you know all about this HPV infection and its role in causing cancer of the cervix. Also you want to protect your daughter, this is commendable.

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It is now well known that almost 100% of cases of cervical cancer are caused by persistent infection with one or more of the 'high risk' types of Human Papilloma Virus (HPV). Infection with the Human Papilloma Virus (HPV) is one of many Sexually Transmitted Infections (STIs). It is called a sexually transmitted infection because the virus spreads from person to person by sexual contact. Other sexually transmitted infections are Gonorrhoea, Chlamydia, Syphilis, HIV, Herpes Simplex, and Trichomoniasis. Hepatitis B and C are also sexually transmitted.

Sexually transmitted infections are second only to colds and flu among contagious diseases (diseases spread from person to person). There are 12 million new cases of STIs every year. HPV is the most common of these, causing 5.5 million new cases each year. It is estimated that 3 out of 4 people (men or women) who have ever been sexually active (regardless of whether they have vaginal, oral or anal sex) will get HPV during their lifetime. At any time, 4 out of 10 women who are aged 20 years will test positive for HPV infection.

Within the last decade, with confirmation of the link between persistent HPV infection and progression to cervical dysplasia (pre-cancer) of moderate to high grade and subsequently to invasive cancer; testing for HPV as an adjunct to cytology screening is becoming increasingly recommended. You will see the advertisements for HPV testing with your Pap smear test on television. However, the HPV test with the Pap smear test is not recommended for all women. There are special cases where the test is recommended. This is because most women who get infected with the HPV will clear the virus from their bodies by their own immunity within 2 years of initial infection. **Precancer, and cancer of the cervix only happens when a woman's body is unable to get rid of the virus by its own immunity.** Conditions which prevent the woman from getting rid of the virus from her body are --- Smoking, Other sexually transmitted diseases such as Syphilis, Gonorrhoea, Chlamydia, Herpes, HIV, taking corticosteroid medications for any reason, or any other severe disease which decreases the immunity of the body. Having many sexual partners increases the chances of a woman getting many different 'High Risk Types' of the HPV (these types cause pre-cancer and cancer of the cervix), from these many partners and the body may be unable to get rid of so many different types of the HPV. HPV infection has been shown responsible as the cause of almost 100% of cases of cancer of the cervix worldwide, especially when the infection is with certain 'high-risk' types of HPV. Other types of HPV, called the 'low-risk' types are responsible for external genital warts.

Mortality from cancer of the cervix has decreased by 70% since the introduction of the Papanicolaou test as a screening test for early detection of the precancerous and easily treatable changes that occur in the cervix prior to the progression to invasive cancer. Regular Papanicolaou tests can thus prevent cervical cancer entirely. In many cases no external sign of infection with HPV appears and the first sign is a 'Pap' test result that shows infection with HPV.

It is easy to see why all women need to be aware of the possible consequences of becoming infected with HPV because the consequences can be disastrous to the woman. Cancer of the cervix is a sexually transmitted disease, via infection with HPV. This cancer is preventable because the early 'pre-cancer' stages of the disease can be detected by regular 'Pap' tests and treatment can be given before progression to cancer.

Genital warts are caused by the 'low-risk' types of HPV. Warts can appear on the outside areas of the genitals as small or large finger-like growths. Warts can also be present on the inside of the vagina and on the cervix. Warts can also appear in the rectum and around the anus. Using condoms during intercourse does not prevent infection with HPV completely because transmission can occur to those areas not covered by the condom, via skin to skin contact. For men, warts appear on the penis, scrotum and around the anus. There may be an interval of months or years from the time of first infection to the actual appearance of warts. There are many types of treatment available for genital warts; a woman can apply medication herself in the privacy of her own home as directed by her physician. Other treatments are carried out by the physician in the office and or in the operating room. Treatment depends upon the extent and severity of the warts.

Most persons (men or women) who have good immunity are able to clear the HPV infection within six months to two years. If a person has an immune system that is weakened due to HIV or certain medications or chronic disease, then the HPV cannot be cleared satisfactorily. Persistence of HPV infection can lead to pre-cancer of the cervix and if untreated, even cancer of the cervix.

The only certain way to prevent infection with HPV is to completely avoid sexual contact –vaginal, oral or anal. Since this is not possible for most people, the next best is to limit the number of sexual partners, use condoms at each sexual encounter and obtain regular 'pap' tests for early detection of the infection.

There is hope on the horizon. This is in the form of a vaccine to create immunity against HPV infection in a manner similar to the vaccines used for prevention of communicable diseases such as polio, measles, diphtheria and other such diseases. The vaccine gives immunity against four types of strains of HPV i.e. 6, 11, 16 and 18. The vaccine became available in 2006. It is recommended for girls 10-13 years of age **before** they become sexually active. At present the vaccine has proven to be protective for ~5 years, further study will be necessary to determine if the immunity will last longer. However, even if she is vaccinated, each woman and adolescent girl must take responsibility for her own health and prevent infection to herself.

All women must remember that even though the vaccine is available and your daughter may get it, it does not protect her against all the 'High Risk Types' of the HPV, only against the four types contained in the vaccine. The vaccine will also **not protect** against other STIs such as Chlamydia, Gonorrhea, Syphilis, HIV or Hepatitis B or C. Rarely, an adolescent girl will not develop immunity to the HPV even if she receives the vaccine.

Even if a woman has had vaccination, **regular Pap tests must never be forgotten**, because a Pap test is the **only** way to know if the HPV is producing any pre-cancer changes in the cervix, so the woman can get treatment before it progresses to cancer.

So now, you know that you have the power to protect yourself and your daughter against cancer of the cervix. The American College of Obstetricians and Gynecologists recommends that a young adolescent female must have her first gynecological examination (which may not need to involve a pelvic examination in all cases and will **not** destroy her virginity if she is a virgin) at 13 to 15 years. Be a good role model for your daughter, make certain that you visit your gynecologist every year and also make sure your daughter has her examination every year – a good habit of maintaining good health learned early in life will serve you and her well for the rest of your lives. Make it your 'good deed' to pass on this message of how to maintain good health to all your friends and relatives.

If you have any questions please talk to your doctor.

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