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Penile Cancer Causes, Risk Factors, and Prevention

Risk Factors

A risk factor is anything that affects your chance of getting a disease such as cancer. Learn more about the risk factors for penile cancer.

- [Risk Factors for Penile Cancer](#)
- [What Causes Penile Cancer?](#)

Prevention

There's no way to prevent penile cancer for sure. But there are things you can do that might help lower your risk.

- [Can Penile Cancer Be Prevented?](#)

Risk Factors for Penile Cancer

A risk factor is anything that affects your chance of getting a disease like cancer. Different cancers have different risk factors. Some cancer risk factors, like smoking or sun exposure, can be changed. Others, like a person's age or family history, can't be changed.

But having a risk factor, or even many, doesn't mean that you will get the disease. On the other hand, some men who develop penile cancer have no known risk factors.

Scientists have found certain risk factors that make a man more likely to develop penile cancer.

Human papillomavirus (HPV) infection

Human papillomavirus (HPV) is a group of more than 150 related viruses. They are called papillomaviruses because some of them cause growths called **papillomas** (more commonly called warts). Different HPV types cause different types of warts in various parts of the body. Certain HPV types can infect the genital organs and the anal area, causing raised, bumpy warts called **condyloma acuminata** (or just condylomas).

Other HPV types have been linked with certain cancers. For example, infection with some types of HPV appears to be an important risk factor for penile cancer. In fact, HPV is found in about half of all penile cancers.

HPV is passed from one person to another during skin-to-skin contact with an infected area of the body. HPV can be spread during sexual activity – including vaginal, anal, and oral – but sex doesn't have to occur for the infection to spread. All that's needed is skin-to-skin contact with an area of the body infected with HPV. Infection with HPV can also spread from one part of the body to another. For example, infection may start in the penis and then spread to the anus.

HPV infection is common. In most men, the body clears the infection on its own. But in some, the infection doesn't go away and becomes chronic. Over time, chronic infection, especially with certain HPV types, can cause some types of cancer, including penile cancer. Men who are not circumcised may be more likely to get and stay infected with HPV.

To learn a lot more, see our [HPV¹](#) section.

Not being circumcised

Circumcision removes all (or part) of the foreskin. This procedure is most often done in infants, but it can be done later in life, too. Men who were circumcised as children may have a much lower chance of getting penile cancer than those who were not. In fact, some experts say that circumcision as an infant prevents this cancer. The same protective effect is not seen if circumcision is done as an adult.

The reason for the lower risk in circumcised men is not entirely clear, but it may be related to other known risk factors. For example, men who are circumcised can't develop the condition called phimosis, and they don't accumulate material known as smegma (see the next section). Men with smegma or phimosis have an increased risk of penile cancer. The later a man is circumcised, it's more likely that one of these conditions will occur first.

In weighing the risks and benefits of circumcision, doctors consider the fact that penile cancer is very uncommon in the United States, even in uncircumcised men. Although the American Academy of Pediatrics has stated that the health benefits of circumcision in newborn males outweigh the risks, it also states these benefits are not great enough to recommend that all newborns be routinely circumcised. In the end, decisions about circumcision are highly personal and often depend more on social and religious factors than on medical evidence.

Phimosis and smegma

Uncircumcised men with certain conditions are at higher risk for penile cancer.

Phimosis

In men who are not circumcised, the foreskin can sometimes become tight and difficult to retract. This is known as **phimosis**. Penile cancer is more common in men with phimosis. The reason for this is not clear, but it might be related to the build-up of smegma or from inflammation that results from phimosis.

Smegma

Sometimes secretions can build up underneath an intact foreskin. If the area under the foreskin isn't cleaned well, these secretions build up enough to become a thick, sometimes smelly substance called **smegma**. Smegma is more common in men with phimosis, but can occur in anyone with a foreskin if the foreskin isn't retracted regularly to clean the head of the penis.

In the past some experts were concerned that smegma might contain compounds that can cause cancer. Most experts now believe that smegma itself probably doesn't cause penile cancer. But it can irritate and inflame the penis, which can increase the risk of cancer. It might also make it harder to see very early cancers.

Smoking and other tobacco use

Men who [smoke](#)² and/or use other forms of tobacco are more likely to develop penile cancer. Tobacco users who have HPV infections have an even higher risk. Tobacco use exposes your body to many cancer-causing chemicals. These harmful substances are inhaled into the lungs, where they are absorbed into the blood, or they're absorbed through mouth tissues into the blood. They can travel in the bloodstream throughout the body to cause cancer in many different areas. Researchers believe that these substances damage genes in cells of the penis, which can lead to penile cancer.

UV light treatment of psoriasis

Men who have a skin disease called psoriasis are sometimes treated with drugs called **psoralens** and then an ultraviolet A (UVA) light source. This is called **PUVA** therapy. Men who have had this treatment have been found to have a higher rate of penile cancer. To help lower this risk, men being treated with PUVA now have their genitals covered during treatment.

Age

The risk of penile cancer goes up with age. In the US, the average age of a man when he is diagnosed is about 68. About 4 out of 5 penile cancers are diagnosed in men over age 55.

AIDS

Men with AIDS have a higher risk of penile cancer. This higher risk seems to be linked to their weakened immune system, which is a result of this disease. But it might also be linked to other risk factors that men with [HIV \(the virus that causes AIDS\)](#)³ are more likely to have. For example, men with HIV are more likely to smoke and be infected with HPV.

Hyperlinks

1. www.cancer.org/cancer/cancer-causes/infectious-agents/hpv.html
2. www.cancer.org/cancer/cancer-causes/tobacco-and-cancer.html
3. www.cancer.org/cancer/cancer-causes/infectious-agents/hiv-infection-aids.html

References

See all references for Penile Cancer (www.cancer.org/cancer/penile-cancer/references.html)

American Society of Clinical Oncology. Penile Cancer: Risk Factors and Prevention. 8/2017. Accessed at www.cancer.net/cancer-types/penile-cancer/risk-factors-and-prevention on May 24, 2018.

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StatPearls. Engelsjerd JS, LaGrange CA. Cancer, Penile. Accessed at www.ncbi.nlm.nih-gov.proxy.library.emory.edu/books/NBK499930/ on May 25, 2018.

Last Medical Review: June 25, 2018 Last Revised: June 25, 2018

What Causes Penile Cancer?

The exact cause of most penile cancers is not known. But scientists have found that it's linked with a number of other conditions. Research is being done around the world to learn more about how these [risk factors](#) might cause cells of the penis to become cancer.

For instance, research has shown that normal cells control themselves by making substances called **tumor suppressor gene products** to keep them from growing too fast and becoming cancers. Two proteins (E6 and E7) made by high-risk types of [human papillomavirus \(HPV\)](#)¹ can block the way tumor suppressor gene products work in cells. This allows the cells to start growing out of control, which might make them more likely to become cancer.

Tobacco use has been linked to penile cancer. It creates cancer-causing chemicals that

spread throughout the body and can damage the DNA inside cells, such as the cells of the penis. DNA is the chemical in our cells that makes up our genes. (Genes control how our cells grow and divide.) When DNA damage affects the genes that control cell growth, it can lead to cancer.

See [Genetics and Cancer](#)² to learn more about the complex link between genes and cancer.

Hyperlinks

1. www.cancer.org/cancer/cancer-causes/infectious-agents/hpv.html
2. www.cancer.org/cancer/cancer-causes/genetics.html

References

See all references for Penile Cancer (www.cancer.org/cancer/penile-cancer/references.html)

Douglawi A, Masterson TA. Updates on the epidemiology and risk factors for penile cancer. *Transl Androl Urol.* 2017;6(5):785-790.

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Can Penile Cancer Be Prevented?

The large variations in penile cancer rates throughout the world suggest that many penile cancers can be prevented. The best way to reduce the risk of penile cancer is to avoid known risk factors. (See Risk Factors for Penile Cancer.) But some men with

penile cancer have no known avoidable risk factors, so it's not possible to prevent this disease completely..

Circumcision

In the past, circumcision (removing the foreskin on the penis) was suggested as a way to lower penile cancer risk. This was based on studies that reported much lower penile cancer rates among circumcised men than among uncircumcised men. But in some studies, the protective effect of circumcision wasn't seen after factors like smegma and phimosis were taken into account. Still, some experts have said that circumcision prevents penile cancer.

In the US, the risk of penile cancer is low even among uncircumcised men. Men who aren't circumcised can help lower their risk of penile cancer by practicing good genital hygiene.

Genital hygiene

Perhaps the most important factor in preventing penile cancer in uncircumcised men is good genital hygiene. Uncircumcised men need to pull back (retract) the foreskin and clean the entire penis. If the foreskin is constricted and hard to retract (this is called **phimosis**), a doctor may be able to prescribe a cream or ointment that can make it easier to do so. If this doesn't work the doctor may cut the skin of the foreskin in a procedure called a **dorsal slit** to make retraction easier.

HPV infection

HPV is very common, so having sex with even one other person can put you at risk. A man can have an HPV infection for years without any symptoms, so the absence of visible warts can't be used to tell if someone has HPV. Even when someone doesn't have warts (or any other symptom), he (or she) can still be infected with HPV and pass the virus to somebody else.

To learn a lot more about HPV, including what you can do to help prevent it, see the [HPV section](#)¹ of our website.

Tobacco use

Tobacco use also increases penile cancer risk, so not using any form of tobacco might

lower that risk. [Quitting tobacco](#)² or never starting to use it in the first place is a good way to reduce your risk of many diseases, including penile cancer.

Hyperlinks

1. www.cancer.org/cancer/cancer-causes/infectious-agents/hpv.html
2. www.cancer.org/healthy/stay-away-from-tobacco/guide-quitting-smoking.html

References

See all references for Penile Cancer (www.cancer.org/cancer/penile-cancer/references.html)

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Last Medical Review: October 19, 2017 Last Revised: October 19, 2017

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