

Prostate Cancer - Risk Factors and Prevention [1]

This section has been reviewed and approved by the [Cancer.Net Editorial Board](#) [2], 10/2014

ON THIS PAGE: You will find out more about the factors that increase the chance of developing this type of cancer. To see other pages, use the menu on the side of your screen.

A risk factor is anything that increases a person's chance of developing cancer. Although risk factors often influence the development of cancer, most do not directly cause cancer. Some people with several risk factors never develop cancer, while others with no known risk factors do. However, knowing your risk factors and talking about them with your doctor may help you make more informed lifestyle and health care choices.

The following factors may raise a man's risk of developing prostate cancer:

Age. The risk of prostate cancer increases with age, especially after age 50. More than 80% of prostate cancers are diagnosed in men who are 65 or older.

Race/ethnicity. Black men have a higher risk of prostate cancer than white men. They are also more likely to develop prostate cancer at an earlier age and to have aggressive tumors that grow quickly. The exact reasons for these differences are not known and may involve socioeconomic and other factors. Hispanic men have a lower risk of developing prostate cancer and dying from the disease than white men. Prostate cancer occurs most often in North America and northern Europe. It also appears that prostate cancer is increasing among Asian people living in urbanized environments, such as Hong Kong, Singapore, and North American and European cities, particularly among those who have a more western lifestyle.

Family history. Prostate cancer often begins when one or more genes in a cell are mutated, or changed, causing cells to multiply uncontrollably and become cancerous. About 75% of prostate cancers are considered sporadic, meaning that the genetic changes occur by chance after a person is born. Prostate cancer that runs in a family, called familial prostate cancer, is less common, accounting for about 20% of cases, and occurs because of a combination of shared genes and shared environmental or lifestyle factors. Hereditary prostate cancer, meaning the cancer is inherited, is rare and accounts for about 5% of cases. Hereditary prostate cancer occurs when gene mutations are passed down within a family from one generation to the next. Hereditary prostate cancer may be suspected if a man's family history includes any of the following characteristics:

- Three or more first-degree relatives with prostate cancer
- Prostate cancer in three generations on the same side of the family
- Two or more close relatives, such as a father, brother, son, grandfather, uncle or nephew, on the same side of the family diagnosed with prostate cancer before age 55

If a man has a first-degree relative, meaning a father, brother or son, with prostate cancer, his risk of developing prostate cancer is two to three times higher than the average risk. This risk increases with the number of relatives diagnosed with prostate cancer.

Hereditary breast and ovarian cancer (HBOC) syndrome [3]. HBOC is associated with mutations in the *BRCA1* and/or *BRCA2* genes. BRCA stands for BReast CAncer. HBOC is most commonly associated with an increased risk of breast [4] and ovarian cancer [5] in women. However, men with HBOC also have an increased risk of developing breast cancer [6] and prostate cancer. Mutations in the *BRCA1* and *BRCA2* genes are thought to cause only a small percentage of familial prostate cancers. Genetic testing may only be appropriate for families with prostate cancer that may also have HBOC.

Other genetic changes. Other genes that may cause an increased risk of developing prostate cancer include *HPC1*, *HPC2*, *HPCX*, and *CAPB*. However, none of them have been shown to cause prostate cancer or be specific to this disease. Research to identify genes associated with an increased risk of prostate cancer is ongoing, and researchers are constantly learning more about how specific genetic changes can influence prostate cancer development. Currently there are no genetic tests [7] available to specifically determine a man's chance of developing prostate cancer.

Agent Orange exposure. The U.S. Department of Veterans Affairs lists prostate cancer as a disease associated with exposure to Agent Orange [8], a chemical used during the Vietnam War.

Diet. No study has proven that diet and nutrition can directly cause or prevent the development of prostate cancer, but many studies that look at links between certain eating behaviors and cancer suggest there may be a connection. There is not enough information yet to make clear recommendations about the role diet plays in prostate cancer, and dietary changes may need to be made many years earlier in a man's life to reduce the risk of developing prostate cancer. The following dietary information may be helpful:

- A diet high in fat, especially animal fat, may increase prostate cancer risk. In fact, many doctors believe a low-fat diet may help reduce the risk of prostate cancer in addition to having other health benefits.
- A diet high in vegetables, fruits, and legumes, such as beans and peas, may decrease the risk of prostate cancer. It is unclear which nutrients are directly responsible. Lycopene, found in tomatoes and other vegetables, may slow or prevent cancer growth. In any case, such a diet does not cause harm and can lower a person's blood pressure and risk of heart disease.
- Currently no specific vitamins, minerals, or other supplements have been conclusively shown in clinical trials to prevent prostate cancer, and some may even be harmful for some men. Men should talk with their doctors before taking any supplements to prevent prostate cancer.
- Specific changes to diet may not stop or slow the development of prostate cancer, and it is possible such changes would need to begin early in life to have an effect.

Prevention

Research continues to look into what factors cause this type of cancer and what men can do to lower their personal risk. There is no proven way to completely prevent this disease, but there may be steps you can take to lower your cancer risk. Talk with your doctor if you have concerns about your personal risk of developing this type of cancer.

Hormones and chemoprevention. High levels of testosterone, a male sex hormone, may speed up or cause the development of prostate cancer. For instance, it is very uncommon for a man whose body no longer makes testosterone to develop prostate cancer. And, stopping the body's production of testosterone, called androgen deprivation therapy, often shrinks advanced prostate cancer. See the [Treatment Options](#) [9] section for more information.

A class of drugs called 5-alpha-reductase inhibitors (5-ARIs), which includes dutasteride (Avodart) and finasteride (Proscar), may lower a man's risk of prostate cancer. In clinical trials, both drugs have reduced the risk of prostate cancer. However, research has also shown that some men who receive these drugs have a higher risk of developing a more aggressive type of prostate cancer than men who do not receive them. Interestingly, according to the results of long-term follow-up study that was published in 2013, the same number of men taking finasteride were alive 15 years later as those taking an inactive substance called a placebo (78%). These results suggest that there is no decrease in the risk of death for men taking finasteride. This subject remains controversial, and these drugs have not been approved for prostate cancer prevention by the U.S. Food and Drug Administration (FDA).

Prostate cancer screening

Screening for prostate cancer is done to find evidence of cancer in otherwise healthy men. Two tests are commonly used to screen for prostate cancer: the PSA blood test and digital rectal examination (DRE). A DRE is a test in which the doctor inserts a gloved lubricated finger into a man's rectum and feels the surface of the prostate for any irregularities.

There is controversy about using the PSA test to look for prostate cancer in men with no symptoms of the disease. On one hand, the PSA test is useful for detecting early-stage prostate cancer, which helps many men get the treatment they need before the cancer spreads. On the other hand, PSA screening finds conditions that are not cancer in addition to slow-growing prostate cancers that would never threaten a man's life. Because of this, screening for prostate cancer may mean that some men have surgery and other treatments that may not ever be needed. Because prostate cancer treatments can cause significant side effects, such as [impotence](#) [10], which is the inability to get and maintain an erection, and [incontinence](#) [11], the inability to control urine flow, treating prostate cancer unnecessarily may seriously affect a man's quality of life. For this reason, many men and their doctors may consider active surveillance of the cancer rather than immediate treatment.

The U.S. Preventive Services Task Force has concluded that the potential risks of PSA screening in healthy men outweigh the potential benefits. Both the American Urological Association and the American Cancer Society recommend that men be told the risks and benefits of testing before PSA screening occurs. [ASCO recommends](#) [12] that men with no symptoms of

prostate cancer be discouraged from PSA screening if they are expected to live less than 10 years. For men expected to live longer than 10 years, ASCO recommends that they talk with their doctors to find out if the test is appropriate for them.

It is not easy to predict which tumors will grow and spread quickly and which will grow slowly. Every man should discuss his situation and risk of prostate cancer with his doctor so they can work together to make a decision.

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Links:

- [1] <http://www.cancer.net/cancer-types/prostate-cancer/risk-factors-and-prevention>
- [2] <http://www.cancer.net/about-us>
- [3] <http://www.cancer.net/node/18922>
- [4] <http://www.cancer.net/node/31322>
- [5] <http://www.cancer.net/node/31343>
- [6] <http://www.cancer.net/node/31325>
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