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Prostate Cancer - Risk Factors and Prevention [1]

This section has been reviewed and approved by the [Cancer.Net Editorial Board \[2\]](#), 01/2016

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 or 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 that runs in a family, called familial prostate cancer, occurs about 20% of the time. This type of prostate cancer develops 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:

- 3 or more first-degree relatives with prostate cancer
- Prostate cancer in 3 generations on the same side of the family
- 2 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 2 to 3 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 to 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](#) [5] cancers in women. However, men with HBOC also have an increased risk of developing [breast cancer](#) [6] and a more aggressive form of prostate cancer. Mutations in the *BRCA1* and *BRCA2* genes are thought to cause only a small percentage of familial prostate cancers. Men who have *BRCA1* or *BRCA2* mutations should consider screening for prostate cancer at an earlier age. Genetic testing may only be appropriate for families with prostate cancer that may also have HBOC. Talk with a genetic counselor or doctor for more information.
- **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 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](#) [7], 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. However, many studies that look at links between certain eating behaviors and cancer suggest there may be a connection.

Prevention

Different factors cause different types of cancer. Researchers continue to look into what factors cause this type of cancer. Although there is no proven way to completely prevent this disease, you may be able to lower your risk. Talk with your doctor for more information about your personal risk 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. In addition, stopping the body's production of testosterone, called androgen deprivation therapy (ADT), often shrinks a prostate tumor. See the [Treatment Options](#) [8] 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 developing prostate cancer. In clinical trials, both drugs have reduced the risk of prostate cancer. Some previous studies suggested that 5-ARIs were linked to more aggressive prostate cancers, but newer studies have shown this claim isn't true. 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 the U.S. Food and Drug Administration (FDA) has not approved these drugs for prostate cancer prevention. Because the decision to take a 5-ARI is different for each patient, men should discuss these drugs with their doctor.

Dietary changes

There is not enough information yet to make clear recommendations about the role diet plays in prostate cancer. 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 briefly summarizes the current research:

- A diet high in fat, especially animal fat, may increase prostate cancer risk. However, no prospective studies, meaning studies that follow men with either high-fat or low-fat diets and then measure the total in each group diagnosed with prostate cancer, have yet shown that diets high in animal fat raise the risk of prostate cancer.
- 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. Although lycopene, the nutrient found in tomatoes and other vegetables, has been linked to a lower risk of prostate cancer, the data so far have not demonstrated a relationship.
- Currently no specific vitamins, minerals, or other supplements have been conclusively shown in clinical trials to prevent prostate cancer. Some, including vitamin D, vitamin E, and selenium 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.

The [next section in this guide is Screening \[9\]](#), and it explains how tests may find cancer before signs or symptoms appear. Or, use the menu on the side of your screen to choose another section to continue reading this guide.

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/cancer-types/breast-cancer>

[5] <http://www.cancer.net/cancer-types/ovarian-cancer>

[6] <http://www.cancer.net/node/31325>

[7] <http://www.publichealth.va.gov/exposures/agentorange/conditions/index.asp>

[8] <http://www.cancer.net/node/19569>

[9] <http://www.cancer.net/node/34546>