

## Researchers Develop Personalized Risk Calculator for Prostate Cancer

**The study:** To find a better way to predict a man's risk of prostate cancer, researchers analyzed prostate-specific antigen (PSA) levels combined with five other risk factors for 5,176 men in the Netherlands. Each of the men who participated in the study received an initial screening to assess these risk factors and a second screening after four years. These risk factors included:

- Digital rectal exam results (a test to check the surface of the prostate for any irregularities)
- Prostate size
- Previous biopsy (removal of a tissue sample for examination under a microscope) that showed no signs of cancer
- Family history of prostate cancer, including the age at which the family member was first diagnosed

A PSA test detects higher-than-normal levels of PSA, a type of protein released by prostate tissue that can indicate the presence of prostate cancer. However, noncancerous conditions, such as a large prostate, can also increase PSA levels. Currently, a PSA test is the main way to predict a man's risk of prostate cancer.

**The results:** The researchers found that while PSA level is still the best single test to predict a man's prostate cancer risk, family history also increased a man's risk, but a previous negative biopsy (tissue removed showed no signs of cancer) and increasing prostate size decreased a man's risk of prostate cancer. When these risk factors are combined, they provide a more accurate estimate of an individual man's risk of prostate cancer than a PSA measurement alone. For example, a man with a lower PSA level, a family history of prostate cancer, no previous negative biopsy, and a lower prostate volume has a 5% chance of developing prostate cancer within four years. A man with a previous negative biopsy, no family history of prostate cancer, and a large prostate could have a PSA level about three times higher before having the same risk.

### What this means for patients

“The idea of looking at a combination of PSA levels and specific, known risk factors to give a longer-term view of prostate cancer risk is an important idea that we hope will become part of standard practice,” said lead author Monique Roobol, PhD, Epidemiologist in Urologic Oncology at Erasmus University Medical Center in Rotterdam, the Netherlands. “This approach is in line with the idea of personalized medicine, where screening is based on a person's unique genetics and risk factors.” Talk with your doctor about your risk of prostate cancer, including your family history and any screening tests you may need.

### Questions to Ask Your Doctor

- What type of prostate cancer screening schedule do you recommend for me, based on my individual medical profile and family history?
- What is my risk of prostate cancer?
- How is my risk of prostate cancer determined?
- How can I lower my risk of prostate cancer?

### For More Information

[Cancer.Net Guide to Prostate Cancer](#) [1]

[ASCO Answers: Prostate Cancer](#) [2]

[Risk Factors](#) [3]

[Digital Rectal Exam - What to Expect](#) [4]

#### Links:

[1] <http://www.cancer.net/node/19562>

[2] [http://www.cancer.net/sites/cancer.net/files/vignette/ASCO\\_Answers\\_Prostate.pdf](http://www.cancer.net/sites/cancer.net/files/vignette/ASCO_Answers_Prostate.pdf)

[3] <http://www.cancer.net/node/24868>

[4] <http://www.cancer.net/node/24500>