

Advancements in prostate cancer research provide hope for finding a cure and lead to the discovery of new treatments to minimize the impact of a man's prostate cancer and maximize his quality of life. This regular *Hot SHEET* supplement includes some of the latest research from the Prostate Cancer Foundation (www.pcf.org).

Benefits of a Healthy Lifestyle in Men at High Risk of Prostate Cancer

Can a healthy lifestyle compensate for genetic risk of prostate cancer? A new study shows promise.

As the saying goes about cancer and other diseases, “Genetics loads the gun, and environment pulls the trigger.” Some men are at higher risk of prostate cancer because of the genes inherited from their parents. That can't be changed. For prostate cancer, “environment” can include lifestyle factors like smoking, not exercising, and an unhealthy diet.

The good news is, men may be able to offset their genetic risk for prostate cancer with a healthy lifestyle. This was shown in a new PCF-funded study (<https://www.abstractsonline.com/pp8/#!/9325/presentation/1890>) by Lorelei Mucci, ScD, MPH, of the Harvard T. H. Chan School of Public Health, and team, presented in April at the American Association for Cancer Research 2021 Annual Meeting.

First, the research team applied a “polygenic risk score” (<https://www.pcf.org/c/new-genetic-test-could-be-the-ultimate-in-early-detection>) —a score previously developed by PCF-funded team led by Christopher Haiman, to calculate a person's prostate cancer lifetime risk based on their genetics. This score was applied to more than 10,000 men who had been followed for 20 years. The researchers found that men with the highest polygenic risk score were more than 5 times as likely to be diagnosed with prostate cancer, and more than 3 times more likely to die from prostate cancer, than men with the lowest polygenic risk score.

The team also had information about lifestyle, and calculated a “lifestyle score” (<https://pubmed.ncbi.nlm.nih.gov/26577654>) based on 6 factors: not smoking, BMI < 30, exercising, high intake of tomatoes and fatty fish, and low intake of processed meat. More points is better, so 4-6 points was defined as a “healthy lifestyle.”

Then, researchers looked at the relationship between prostate cancer genetic risk score and lifestyle score. Among men with the greatest potential (based on genetics) to develop lethal prostate cancer, a “healthy lifestyle” was protective—those with a healthy lifestyle lowered their actual risk of lethal prostate cancer by 46%, compared to men with the least healthy lifestyle. Even a “moderately healthy” lifestyle helped, lowering risk of lethal prostate cancer by 41%.

What can men take away from this? You can't change your genes, but you can change what you eat and how much you exercise. While more research is needed, this study suggests that in men at high genetic risk for lethal prostate cancer, a healthy lifestyle may lower that risk. Even if you don't know your prostate cancer genetic risk—certainly, most men do not!—there's plenty of evidence (<https://www.pcf.org/c/the-best-of-the-best-food-science-and-prostate-cancer>) that quitting smoking, increasing exercise, and eating more brightly-colored vegetables improves your heart health and reduces your risk of cancer and other chronic diseases.

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