

# Low cholesterol may shrink risk for high-grade prostate cancer

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Men with lower cholesterol are less likely than those with higher levels to develop high-grade prostate cancer - an aggressive form of the disease with a poorer prognosis, according to results of a Johns Hopkins collaborative study.

In a prospective study of more than 5,000 U.S. men, epidemiologists say they now have evidence that having lower levels of heart-clogging fat may cut a man's risk of this form of cancer by nearly 60 percent.

"For many reasons, we know that it's good to have a cholesterol level within the normal range," says Elizabeth Platz, Sc.D., M.P.H., associate professor at the Johns Hopkins Bloomberg School of Public Health and co-director of the cancer prevention and control program at the Johns Hopkins Kimmel Cancer Center. "Now, we have more evidence that among the benefits of low cholesterol may be a lower risk for potentially deadly prostate cancers."

Normal range is defined as less than 200 mg/dL (milligrams per deciliter of blood) of total cholesterol.

Platz and her colleagues found similar results in a study first published in 2008, and in 2006, she linked use of cholesterol-lowering [statin drugs](#) to lower risk of advanced prostate cancer.

For the current study, Platz, members of the Southwest Oncology Group, and other collaborators analyzed data from 5,586 men aged 55 and older

enrolled in the Prostate Cancer Prevention Trial from 1993 to 1996. Some 1,251 men were diagnosed with prostate cancer during the study period.

Men with cholesterol levels lower than 200 mg/dL had a 59 percent lower risk of developing high-grade prostate cancers, which tend to grow and spread rapidly. High-grade cancers are identified by a pathological ranking called the Gleason score. Scores at the highest end of the scale, between eight and 10, indicate cancers considered the most worrisome to pathologists who examine samples of the diseased prostate under the microscope.

In Platz's study, [cholesterol levels](#) had no significant effect on the entire spectrum of prostate cancer incidence, only those that were high-grade, she says.

Platz cautions that, while the group took into account factors that could bias the results, such as smoking history, weight, family history of [prostate cancer](#), and dietary cholesterol, other things could have affected their results. One example is whether men in the study were taking cholesterol-lowering drugs at the time of the blood collections, a data point the researchers expect to analyze soon.

Results of the current study are expected to be published online Nov. 3 in the journal *Cancer Epidemiology, Biomarkers & Prevention*. Also in the journal is an accompanying paper from the National Cancer Institute showing that lower cholesterol in men conferred a 15 percent decrease in overall cancer cases.

"Cholesterol may affect cancer cells at a level where it influences key signaling pathways controlling cell survival," says Platz. "Cancer cells use these survival pathways to evade the normal cycle of cell life and death."

She says that targeting cholesterol metabolism may be one route to treating and preventing the disease, but this remains to be tested.

Source: Johns Hopkins Medical Institutions

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