

# Vitamin D deficiency linked to aggressive prostate cancer

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African-American and European-American men at high risk of prostate cancer have greater odds of being diagnosed with an aggressive form of the disease if they have a vitamin D deficiency, according to a new study from Northwestern Medicine and the University of Illinois at Chicago (UIC).

Results of the study will be published May 1 in *Clinical Cancer Research*, a journal of the American Association for Cancer Research.

"Vitamin D deficiency could be a biomarker of advanced prostate tumor progression in large segments of the general population," said Adam B. Murphy, M.D., lead author of the study. "More research is needed, but it would be wise for men to be screened for vitamin D deficiency and treated."

Murphy is an assistant professor in urology at Northwestern University Feinberg School of Medicine, a physician at Jesse Brown VA Medical Center and a member of the Robert H. Lurie Comprehensive Cancer Center of Northwestern University.

"This is the first study to look at vitamin D deficiency and biopsy outcomes in men at high risk of prostate cancer," said Rick Kittles, senior author of the study. "Previous studies focused on vitamin D levels in men either with or without prostate cancer."

Kittles is an associate professor in the department of medicine at UIC.

Scientists examined data collected from a diverse group of more than 600 men from the Chicago area who had elevated PSA levels or other risk factors for prostate cancer. Each man was screened for vitamin D deficiency before undergoing a [prostate biopsy](#).

The authors were surprised to find that vitamin D deficiency seemed to be a predictor of aggressive forms of prostate cancer diagnosis in African-American and European-American men, even after adjusting for potential confounders including diet, smoking habits, obesity, family history and calcium intake.

"These men, with severe vitamin D deficiency, had greater odds of advanced grade and advanced stage of tumors within or outside the prostate," Murphy said.

European-American men and African-American men had 3.66 times and 4.89 times increased odds of having aggressive prostate cancer respectively and 2.42 times and 4.22 times increased odds of having tumor stage T2b or higher, respectively.

African-American [men](#) with severe vitamin D deficiency also had 2.43 times increased odds of being diagnosed with prostate cancer.

"Vitamin D deficiency is more common and severe in people with darker skin and it could be that this deficiency is a contributor to prostate cancer progression among African-Americans," Murphy said.

"Our findings imply that vitamin D deficiency is a bigger contributor to African-American [prostate cancer](#)."

Unless it is severe, vitamin D deficiency is fairly asymptomatic, so more effort needs to be put on screening, Murphy said.

"It is a good idea to get your levels checked on a yearly basis," Murphy

said. "If you are deficient, you and your doctor can make a plan on how to reverse it through diet, supplements or other therapies."

Provided by Northwestern University

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