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Contact: Jeremy Moore
Jeremy.moore@aacr.org
267-646-0557
American Association for Cancer Research

Height linked to risk of prostate cancer development and progression

PHILADELPHIA – A man's height is a modest marker for risk of prostate cancer development, but is more strongly linked to progression of the cancer, say British researchers who conducted their own study on the connection and also reviewed 58 published studies.

In the September issue of *Cancer Epidemiology, Biomarkers & Prevention,* a journal of the American Association for Cancer Research, 12 researchers at four universities in England studied more than 9,000 men with and without prostate cancer and estimated that the risk of developing the disease rises by about six percent for every 10 centimeters (3.9 inches) in height a man is over the shortest group of men in the study. That means a man who is one foot taller than the shortest person in the study would have a 19 percent increased risk of developing the disease.

Still, these increases in risk are a lot less than those linked with other established risk factors, such as age, family history of the disease, and race. Because of that, the researchers do not suggest that taller men be screened more often than is typical, or that their cancer treatment be altered.

"Compared to other risk factors, the magnitude of the additional risk of being taller is small, and we do not believe that it should interfere with preventive or clinical decisions in managing prostate cancer," said the study's lead author, Luisa Zuccolo, M.Sc., of the Department of Social Medicine at the University of Bristol. "But the insight arising from this research is of great scientific interest. Little is known on the causes of prostate cancer and this association with height has opened up a new line of scientific inquiry."

For example, Zuccolo says that factors associated with height - not height itself – could be risk factors for progression to fatal prostate cancer, and a plausible mechanism behind this association could be the insulin-like growth factor-1(IGF-1) system, which stimulates cell growth and has been shown to be involved in prostate cancer incidence and progression.

Because some studies have shown a much greater association between height and prostate cancer risk − some between 20 to 40 percent − the researchers then placed their results in the context of available evidence. They conducted a meta-analysis of 58 studies, and found evidence that greater stature is associated with increased prostate cancer risk. But as in their study, the overall effect varied with study design and was modest − a three to 9 percent increase risk of development per 10 centimeters, and five to 19 percent increase in risk for more advanced cancer.

"We do not believe that height itself matters in determining risk of prostate cancer or prostate cancer progression, but we speculate that factors that influence height may also influence cancer and height is therefore acting as a marker for the causal factors," Zuccolo said.

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The mission of the American Association for Cancer Research is to prevent and cure cancer. Founded in 1907, AACR is the world's oldest and largest professional organization dedicated to advancing cancer research. The membership includes more than 28,000 basic, translational and clinical researchers; health care professionals; and cancer survivors and advocates in the United States and 80 other countries. AACR marshals the full spectrum of expertise from the cancer community to accelerate progress in the prevention, diagnosis and treatment of cancer through high-quality scientific and educational programs. It funds innovative, meritorious research grants. The AACR Annual Meeting attracts more than 17,000 participants who share the latest discoveries and developments in the field. Special conferences throughout the year present novel data across a wide variety of topics in cancer research, treatment and patient care. AACR publishes five major peer-reviewed journals: *Cancer Research; Clinical Cancer Research; Molecular Cancer Therapeutics; Molecular Cancer Research*; and *Cancer Epidemiology, Biomarkers & Prevention.* Its most recent publication and its sixth major journal, *Cancer Prevention Research,* is dedicated exclusively to cancer prevention, from preclinical research to clinical trials. The AACR also publishes CR, a magazine for cancer survivors and their families, patient advocates, physicians and scientists. CR provides a forum for sharing essential, evidence-based information and perspectives on progress in cancer research, survivorship and advocacy.