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Contact: David Sampson

[david.sampson@cancer.org](mailto:david.sampson@cancer.org)

[American Cancer Society](#)

## **Prostate cancer therapy increases risk of fractures and cardiovascular-related death**

Prostate cancer patients who undergo therapy to decrease testosterone levels increase their risk of developing bone- and heart-related side effects compared to patients who do not take these medications, according to a new analysis. Published in the June 1, 2009 issue of *CANCER*, a peer-reviewed journal of the American Cancer Society, the study indicates that preventive measures and careful scrutiny of patients' health can keep men from experiencing these potentially serious consequences.

While medical treatments that decrease testosterone levels—called androgen deprivation therapy (ADT)—are important and effective therapies for men with prostate cancer, they can cause a variety of side effects including skeletal and cardiovascular complications, sexual dysfunction, periodontal disease, and mood disorders.

Bone and heart complications are among the most serious side effects associated with ADT, but the actual risk patients have of developing these effects is unknown. Lockwood Taylor, MPH, of the University of Texas Health Science Center and colleagues conducted a study to assess this risk by analyzing all of the literature related to side effects from ADT published between 1996 and mid-2008. They found 14 studies (8 bone-related, 6 heart-related) that were suitable for analysis.

The researchers' review revealed that men treated with ADT for prostate cancer had an increased risk of bone fractures and heart-related death, although the absolute risk for both was still low. For bone fractures, there was a 23 percent increased risk compared to prostate cancer patients who did not undergo the treatment. The absolute risk of fracture among ADT-exposed men was still only 7.2 per 100 person years. For heart-related death, the increased risk among ADT-exposed men was 17 percent higher compared to other prostate cancer patients. However, because the baseline risk is low, the increase translated to an additional one-to-two deaths per 1,000 men who received ADT. Two large studies also documented significant increases in diabetes risk associated with the therapy.

"While the absolute risks of fracture and cardiovascular mortality are low among men treated with androgen deprivation therapy, preventive treatments may further reduce the risk of these serious adverse outcomes related to androgen deprivation therapy," the authors wrote. They also noted that because some patients may benefit from this therapy more than others, physicians should consider each patient's overall health and prostate cancer status when weighing treatment options.

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Article: "Review of Major Adverse Effects of Androgen-deprivation Therapy in Men With Prostate Cancer." Lockwood G. Taylor, Steven E. Canfield, and Xianglin L. Du. *CANCER*, Published Online: April 27, 2009 (DOI: 10.1002/cncr.24283); Print Issue Date: June 1, 2009.

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