

Study examines use of drugs to strengthen bones for men receiving ADT

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Although some guidelines recommend use of bisphosphonates (a class of drugs used to strengthen bone) for men on androgen deprivation therapy, an analysis finds that prescriptions for these drugs remains low, even for those men at high risk of subsequent fractures, according to a study in the December 3 issue of *JAMA*.

Androgen deprivation therapy (ADT) is an effective, widely used therapy for [men](#) with prostate cancer. Adverse effects include [bone](#) loss and increased fracture risk. Canadian guidelines recommended bisphosphonate use in men with osteoporosis or fragility fracture as early as 2002 and in men on ADT in 2006. Bisphosphonate prescribing patterns are relatively unknown and may have changed over time because of increasing awareness of bone effects of ADT and evidence of bisphosphonate efficacy, according to background information in the article.

Using administrative databases at the Institute for Clinical Evaluative Sciences and the Ontario Cancer Registry, Husayn Gulamhusein, B.H.Sc., of the University Health Network, Toronto, and colleagues examined rates of bisphosphonate prescriptions in men initiating ADT in Ontario between 1995 and 2012. The study group included men 66 years of age or older starting ADT for prostate cancer, who had undergone surgical removal of one or both testicles or received at least 6 months of continuous medical ADT and survived at least 1 year after ADT initiation. Any bisphosphonate claim within 12 months of ADT initiation was captured through drug database claims. Bisphosphonate prescription

over time was examined for three groups: all nonusers of bisphosphonates, those with prior osteoporosis, and those with prior fragility fracture.

A total of 35,487 men with [prostate cancer](#) who began ADT during the study period were identified. Bisphosphonate claims among all nonusers increased from 0.35 per 100 persons in 1995-1997 to 3.40 per 100 persons in 2010-2012. Even among those with prior osteoporosis or fragility fracture, rates remained low. Among all 3 groups, peak bisphosphonate claims occurred in 2007-2009, with a high of 11.89 per 100 persons in those with prior osteoporosis.

As the most widely used class of prescription drugs for osteoporosis, the authors write that these findings suggest "limited awareness among clinicians regarding optimal bone health management."

The researchers speculate that the decrease in bisphosphonate prescriptions after 2009 may be partly due to recent negative media regarding the association of bisphosphonates with rare osteonecrosis (bone death) of the jaw and atypical femoral fractures. "This is appropriate for groups at low risk for fractures, but the decrease in use for high-risk patients is concerning."

"Although the optimal rate of bisphosphonate use in men on ADT is unknown, it is reasonable that most men with prior osteoporosis or fracture should be taking a bisphosphonate or other effective bone medication."

More information: *JAMA*, [DOI: 10.1001/jama.2014.14038](https://doi.org/10.1001/jama.2014.14038)

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