

**The evidence is coming in...** from Menopause magazine 2011 re: hip fracture after stopping hormone therapy

Millions of women in the United States and across the globe abruptly discontinued postmenopausal hormone therapy (HT) after the initial Women's Health Initiative trial publication. (2002)

We evaluated the impact of HT cessation on hip fracture incidence in a large cohort from the Southern California Kaiser Permanente health management organization.

Cessation of HT among postmenopausal women is associated with a significant greater risk of hip fracture within 2 years of cessation.

Women who discontinued postmenopausal HT had significantly increased risk of hip fracture and lower BMD compared with women who continued taking HT.

With approximately 1 million women entering menopause each year in the United States alone, the health consequences of bone fracture may have potentially enormous survival and economic consequences.

*Abstract:*

**Hip fracture in postmenopausal women after cessation of hormone therapy: results from a prospective study in a large health management organization.**

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**OBJECTIVE:** : Millions of women in the United States and across the globe abruptly discontinued postmenopausal hormone therapy (HT) after the initial Women's Health Initiative trial publication. Few data describing the effects of HT cessation on hip fracture incidence in the general population are available. We evaluated the impact of HT cessation on hip fracture incidence in a large cohort from the Southern California Kaiser Permanente health management organization.

**METHODS:** : In this longitudinal observational study, 80,955 postmenopausal women using HT as of July 2002 were followed up through December 2008. Data on HT use after July 2002, antiosteoporotic medication use, and occurrence of hip fracture were collected from the electronic medical record system. Bone mineral density (BMD) was assessed in 54,209 women once during the study period using the dual-energy x-ray absorptiometry scan.

**RESULTS:** : After 6.5 years of follow-up, age- and race-adjusted Cox proportional hazard models showed that women who discontinued HT were at 55% greater risk of hip fracture compared with those who continued using HT (hazard ratio, 1.55; 95% CI, 1.36-1.77). Hip fracture risk increased as early as 2 years after cessation of HT (hazard ratio, 1.52; 95% CI, 1.26-1.84), and the risk incrementally increased with longer duration of cessation (P for trend < 0.0001). Longer duration of HT cessation was linearly correlated with lower BMD ( $\beta$  estimate [SE]) = -0.13 [0.003] T-score SD unit per year of HT cessation; P < 0.0001).

**CONCLUSIONS:** : Women who discontinued postmenopausal HT had significantly increased risk of hip fracture and lower BMD compared with women who continued taking HT. The protective association of HT with hip fracture disappeared within 2 years of cessation of HT. These results have public health implications with regard to morbidity and mortality from hip fracture.