

Subclinical Thyroid Disease and Risk for Hip Fracture

Risk was higher with either hyper- or hypothyroidism.

Overt hyperthyroidism is a known risk factor for osteoporosis and associated fracture, but risk associated with subclinical disease is unclear. Researchers used data from a national community-based prospective cohort study to assess hip-fracture risk in about 3500 adults (mean age at enrollment, 73) without overt thyroid disease; about 20% of them had subclinical thyroid dysfunction. Subclinical hyperthyroidism was defined as thyrotropin (TSH) level <0.45 mIU/L and subclinical hypothyroidism as TSH level between 4.5 and 20.0 mIU/L — both with normal free thyroxine (T_4) levels. Subclinical hypothyroidism was about three times as common as hyperthyroidism (14.9% vs. 4.7%).

During a median follow-up of 13 years, 331 hip fractures occurred. In analyses adjusted for a wide range of demographic and clinical variables, the hazard ratios for hip fracture in men with subclinical hyperthyroidism or hypothyroidism were 3.3 and 2.3 respectively. The hazard ratios were roughly similar for the subgroup of men with TSH levels <10 mIU/L compared with all men with occult hypothyroidism. No relation was found between hip fracture risk and subclinical thyroid dysfunction in women.

Comment: With this study, known risk for osteoporosis with overt hyperthyroidism has been extended to older men with subclinical hypo- or hyperthyroidism. However, whether routine screening for thyroid dysfunction would result in interventions that prevent fractures is unclear. Currently, the [U.S. Preventive Services Task Force](#) does not recommend that adults be screened routinely for thyroid dysfunction, and other organizations vary widely in recommendations for or against screening in various clinical populations.

— [Thomas L. Schwenk, MD](#)

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