

# Routine CT imaging can be used to identify osteoporosis

April 17 2013

---



Abdominal computed tomography imaging, conducted for other indications, can be used to identify patients with osteoporosis, according to a study published in the April 16 issue of the *Annals of Internal Medicine*.

(HealthDay)—Abdominal computed tomography (CT) imaging, conducted for other indications, can be used to identify patients with osteoporosis, according to a study published in the April 16 issue of the *Annals of Internal Medicine*.

Perry J. Pickhardt, M.D., from the University of Wisconsin School of Medicine and Public Health in Madison, and colleagues conducted a cross-sectional study at a single academic health center to compare the value of CT-derived [bone mineral density](#) assessment, using CT scans performed for other indications, with dual-energy X-ray absorptiometry (DXA) measures for identifying [osteoporosis](#). Over 10 years, 1,867 adults undergoing CT and DXA within a six-month period were included.

The researchers found that, for patients with DXA-defined osteoporosis, CT-attenuation values were significantly lower at all vertebral levels. Osteoporosis could be distinguished from osteopenia and normal bone mineral density with 90 percent sensitivity with an L1 CT-attenuation threshold of 160 Hounsfield Units (HU) or less, while a threshold of 110 HU was more than 90 percent specific. At L1 CT-attenuation thresholds less than 100 HU, the positive predictive values for osteoporosis were 68 percent or greater; at thresholds greater than 200 HU, the negative predictive values were 99 percent. Most of the 119 patients with one or more moderate-to-severe [vertebral fractures](#) had nonosteoporotic T-scores (52.1 percent), and 97 percent had L1 or mean T12 to L5 vertebral attenuation of 145 HU or less.

"In conclusion, we demonstrate how routine abdominal CT scans obtained for other clinical indications can be used for opportunistic osteoporosis screening without the need for additional imaging, [radiation exposure](#), cost, equipment, or patient time," the authors write.

Two authors disclosed financial ties to the pharmaceutical and/or diagnostic industry.

**More information:** [Full Text \(subscription or payment may be required\)](#)

[Editorial \(subscription or payment may be required\)](#)

[Health News](#) Copyright © 2013 [HealthDay](#). All rights reserved.

Citation: Routine CT imaging can be used to identify osteoporosis (2013, April 17) retrieved 26 April 2024 from <https://medicalxpress.com/news/2013-04-routine-ct-imaging-osteoporosis.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is

provided for information purposes only.