

Male Smokers at Higher Risk than Females for Osteoporosis, Fractures

Smokers of both genders should be screened for low bone density

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DENVER, CO — In a large study of middle-aged to elderly smokers, men were more likely than women to have osteoporosis and fractures of their vertebrae. Smoking history and [chronic obstructive pulmonary disease](#) (COPD) were independent risk factors for low bone density among both men and women in the study, which has been published online in the [Annals of the American Thoracic Society](#).

Current guidelines do not recommend osteoporosis screening for men. While current smoking is a recognized risk factor for osteoporosis, neither smoking history nor COPD are among criteria for bone-density screening.

“Our findings suggest that current and past smokers of both genders should be screened for osteoporosis,” said [Elizabeth Regan, MD](#), assistant professor of medicine at National Jewish Health. “Expanding screening to include men with a smoking history and starting treatment in those with bone disease may prevent fractures, improve quality of life and reduce health care costs.”

The researchers, from National Jewish Health and other institutions, evaluated 3,321 current and ex-smokers ages 45 to 80, with a minimum of 10 pack-years of smoking history using quantitative CT to assess bone density. Overall, 11 percent of the study participants had normal bone density, 31 percent had intermediate bone density, and 58 percent had low bone density. Thirty-seven percent of the participants had one or more fractures of their vertebrae.

Men accounted for 55 percent of the smokers with low bone density and 60 percent of those with vertebral fractures.

Low-bone density increased in prevalence with worsening COPD, rising to 84 percent among severe COPD patients of both genders. COPD is the third leading cause of death in the United States and up to 49 percent of the population over 45 is a current or ex-smoker.

Each additional pack-year of smoking raised the odds of having low bone density by 0.4 percent. The participants with normal bone density had an average of 36.6 pack-year of smoking, while those with low bone density had an average of 46.9 pack-years of smoking history.

“The growing use of CT scans to screen heavy smokers for lung cancer may provide an opportunity to use the same scans for bone density screening in this high-risk population,” said Dr. Regan.

National Jewish Health is the leading respiratory hospital in the nation. Founded 121 years ago as a nonprofit hospital, National Jewish Health today is the only facility in the world dedicated exclusively to groundbreaking medical research and treatment of patients with respiratory, cardiac, immune and related disorders. Patients and families come to National Jewish Health from around the world to receive cutting-edge, comprehensive, coordinated care. To learn more, visit the [media resources page](#).

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