# Drugs that treat osteoporosis also can cause small risk of thigh bone fractures

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Osteoporosis drugs have significantly reduced the risk of bone fractures for millions of people, but also have been linked to unusual fractures of the femur (thigh bone).

In the journal *Current Geriatrics Reports*, orthopaedic surgeons report the latest findings for treating these injuries, called atypical femur fractures.

The article is written by surgeons at Loyola University Medical Center and Loyola University Chicago Stritch School of Medicine.

"Attempts to medically manage osteoporosis have created a new 'atypical' fracture pattern that must be recognized and managed appropriately," write Loyola orthopaedic surgeons Patrick Strotman, MD, William Lack, MD, Mitchell Bernstein, MD and Hobie Summers, MD. A fifth co-author is former Loyola orthopaedic surgeon Michael Stover, MD.

Osteoporosis drugs, known as bisphosphonates, are taken to increase bone mineral density. Studies have found that bisphosphonates decrease fractures in the vertebrae by more than 50 percent and fractures elsewhere by 40 percent. But the drugs also cause a small risk of atypical femur fractures. These fractures typically occur with little or no force or trauma, and often are preceded by pain. The vast majority of atypical femur fractures are seen after an average of three years of bisphosphonate use.

Treatment of atypical femur fractures should begin with the immediate cessation of bisphosphonates. Calcium and vitamin D supplementation should be maximized. "The current recommended dosing for calcium and vitamin D are under debate and may be too low for the majority of those affected," the authors write.

Complete fractures are treated surgically with implanted titanium rods. Symptomatic, incomplete fractures, indicated by thigh pain and X-rays, may also be treated surgically with titanium rods, in order to prevent complete fractures.

"Physicians responsible for the management of osteoporosis must be aware of this issue, be able to diagnose these fractures before they are complete and have a strategy for managing bisphosphonate therapy long term," the authors write.

The lifetime risk of an osteoporosis-related fracture ranges between 40 and 50 percent in women and 13 and 22 percent in men. The most common locations for such "fragility fractures" are the lower spine, wrist, femur, pelvis and upper arm.

"While hip fractures only account for 15 percent of osteoporosis-related fractures, they are associated with poor patient outcomes and increased financial burden, accounting for over 70 percent of fragility fracture-associated healthcare costs," the authors write.

Despite improvements in surgical techniques and implants, the mortality rate associated with geriatric hip fractures continues to range from 20 to 30 percent, and has not changed over the past 30 years.

"The persistently high mortality rate has sparked interest in the management of these patients preoperatively in an effort to decrease mortality," the authors write.

The sooner elderly patients who have suffered hip fractures undergo surgery, the better their outcomes. They first must be evaluated for health issues that increase surgical risks. However, studies have found that in many cases, patients without active cardiopulmonary issues receive time-consuming preoperative testing that is not needed.

Emergency room physicians, medical consultants

and orthopaedic surgeons must balance the need for thorough medical evaluation with the increased mortality and poorer outcomes associated with delayed repair of hip fractures, the authors write.

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