

X-rays help predict permanent bone damage from bisphosphonates

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Breast cancer patients, individuals at risk for osteoporosis and those undergoing certain types of bone cancer therapies often take drugs containing bisphosphonates. These drugs have been found to place people at risk for developing osteonecrosis of the jaws (a rotting of the jaw bones).

Dentists, as well as oncologists, are now using X-rays to detect "ghost sockets" in patients that take these drugs and when these sockets are found, it signals that the jawbone is not healing the right way. Early detection of these ghost sockets can help the patient avoid permanent damage to their jawbone, according to an article in the March/April 2009 issue of *General Dentistry*, the Academy of General Dentistry's (AGD) clinical, peer-reviewed journal.

A ghost socket occurs when the jawbone is not healing and repairing itself the right way. "The good news is that even though these ghost sockets may occur, by using radiographic techniques we can see that the soft tissue above these sockets can still heal," according to Kishore Shetty, DDS, MS, MRCS, lead author of the report. Dr. Shetty states these findings are important news to learn about because early prevention and detection can halt permanent damage from happening to a patient's jawbone.

In 2006, about 191 million prescriptions of oral bisphosphonates worldwide were written. The National Osteoporosis Foundation estimates that nearly 44 million people in the United States are at risk

for developing osteoporosis. Currently, approximately 10 million Americans suffer from the disease.

Bisphosphonates are a family of drugs used to prevent and treat osteoporosis, multiple myeloma, Paget's disease (bone cancers), and bone metastasis from other cancers. These drugs can bond to bone surfaces and prevent osteoclasts (cells that break down bone) from doing their job. Other cells are still working trying to form bone, but it may turn out to be less healthy bone leading to the ghost-like appearance on X-rays.

"Healthy bones can easily regenerate," says Dr. Shetty. "But, because jawbones have rapid cell turnover, they can fail to heal properly in patients taking any of the bisphosphonate drugs. It's very important for patients to know about complications from dental surgery or extractions. Since these drugs linger in the bone indefinitely, they may upset the cell balance in how the jaws regenerate and remove unhealthy bone."

According to AGD spokesperson Carolyn Taggart-Burns, DDS, FAGD, patients who are taking bisphosphonates should inform their dentist to prevent complications from dental surgical procedures.

"Widespread use of bisphosphonates to prevent or treat early osteoporosis in relatively young women and the likelihood of long-term use is a cause for concern," says Dr. Taggart-Burns.

Drs. Shetty and Taggart-Burns agree that, "how [bisphosphonates](#) interfere with healing after dental surgery is still unclear and further research will be needed. It is imperative that the public understands there is no present treatment or cure for this problem."

Source: Academy of General Dentistry ([news](#) : [web](#))

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