



Osteoporosis and Your Mouth

As we age, bone strength and density tends to decrease. Bone is a living tissue that is constantly being absorbed and replaced throughout your entire skeletal system – including the bone that surrounds your teeth. This process tends to slow down as we get older, but sometimes the creation of new bone is no longer able to keep up with the removal of old bone. As more bone is absorbed and less bone is being generated to replace it, the entire skeletal system can weaken and become brittle over time. Osteoporosis (literally “porous bones”) can leave the bones in such a brittle state that in some cases even bending over or coughing can result in a fracture.

In recent years, there has been a marked rise in the use of oral bisphosphonates (drugs such as Fosamax, Actonel, and Boniva) to combat and prevent the development of osteoporosis – especially for menopausal and post-menopausal women. No one knows if osteoporosis rates are actually increasing, or if the development of bone density testing is simply allowing us to see changes that we were not able to see before.

How Does Osteoporosis Medication Work?

Oral bisphosphonate therapy is the current medical standard for the treatment and prevention of osteoporosis. Bisphosphonates work by inhibiting bone resorption – meaning that they slow the body’s removal of older bone structure.

In diseases where the body is removing increasingly more bone than it can regenerate – osteoporosis and several different kinds of bone cancers, for example – bisphosphonate therapy can be an effective treatment in slowing bone loss over time. But there are side effects, and for people who do not actually have a frank bone disorder, these drugs may be doing more harm than good.

In the late 1990s, after Fosamax (the first bisphosphonate) was approved, bone density screening became more prevalent. Armed with a test and a medication, doctors enthusiastically prescribed the Fosamax both as a treatment for osteoporosis and as a preventive measure in cases where bone density screens indicated borderline results. In 2003, The National Osteoporosis Foundation lowered the recommended treatment threshold as a result.

To view our entire resource library, please visit www.drmartharich.com.



But we now know that the progression from osteopenia, or pre-osteoporosis, to actual osteoporosis is much slower than previously thought – and in many cases (especially in younger post-menopausal women or seniors who have not already experienced a fracture) the progression often does not happen at all.

Oral Bisphosphonates and Osteonecrosis

Osteonecrosis of the jaw (ONJ) is a rare but well known side-effect associated with bisphosphonate therapy. It is most commonly seen in cancer patients who receive more concentrated doses of bisphosphonates intravenously, but in recent years, there has been an increase of ONJ cases reported in patients who take oral bisphosphonates and undergo certain invasive dental procedures.

Many physicians were initially unaware of these dental risk factors for ONJ. Even dentists and oral surgeons weren't aware of the connection between ONJ and bisphosphonate therapy in the beginning. Today, the actual causal factors between bisphosphonate therapy and ONJ are still unclear, but we do know that the turnover of bone is much faster in the mouth than other areas of the body and that the mouth is also under a much larger bacterial load.

It is difficult to gauge just how many cases of ONJ are associated with oral bisphosphonate therapy because most of the large-scale statistical research has been done by analyzing medical and insurance records. But at the time of this writing (July 2012), there is still no medically-recognized diagnostic code for ONJ, meaning that we simply do not know exactly how many cases have been diagnosed, or what the accurate statistical risks are.



What we do know is that ONJ can be an extremely difficult disease to treat. Osteonecrosis literally means “bone death.” In the jaw, osteonecrosis is defined as a condition where the jawbone is exposed (not covered by the gums) for at least 8 weeks and begins to starve because of a lack of blood. The cells die, small pieces of the jawbone can begin to break away, and previously healthy teeth can be lost as a result. Stopping bisphosphonate therapy, using prescription rinses, and in some cases surgery can help stop the progression of ONJ, but not for everyone. Some cases can persist or recur, even with treatment.

Bisphosphonate-related ONJ is most commonly associated with injuries to the jaw and surgical dental treatments. Extractions, implants, and other dental procedures where the jawbone may be exposed seem to pose the greatest risks. Patients who have active gum disease are also at a greater risk of developing ONJ while taking bisphosphonates. Even patients who wear full dentures or partials can develop ONJ in areas where these appliances rub against the gums and generate sores.



Recommendations

If you are considering bisphosphonate therapy, it is highly recommended that you consult with a knowledgeable dentist before starting on the medication. Major dental work should be performed and ongoing infections treated before you begin taking the bisphosphonates for the best possible results in reducing your risks of ONJ. And if you are already taking medication for osteoporosis or osteopenia, be sure to let your dentist know as soon as possible so that he or she can help you make the best possible treatment choices to protect the health of your jawbone. Here are a few things to keep in mind about dental treatment while undergoing bisphosphonate therapy:

- Tooth extraction is generally not recommended while taking oral or IV bisphosphonates.
- If a tooth breaks off at the gumline, a root canal treatment is always preferable to root extraction.
- Contrary to some dental guidelines, stopping bisphosphonate treatment for several months in order to undergo more invasive dental treatment may not decrease the risk of ONJ. All bisphosphonates have a very long half-life in the body, and their effects on bone resorption can still be seen anywhere from 5 to 10 years after stopping treatment.
- Regular dental check-ups and meticulous home care, including brushing and flossing often and correctly, are essential for anyone on any type of bisphosphonate therapy.

ONJ is not the only concern when considering long-term bisphosphonate therapy. Other rare but serious side-effects have also been documented. Esophageal cancer and spontaneous fracture of the femur have both been reported in some patients taking oral bisphosphonates for four years or longer.



Whether you choose to start bisphosphonate therapy to prevent or treat osteoporosis is up to you and your doctor. There are certainly situations where the potential benefits to your overall bone health are worth the risks. However, for as long as you remain on the medication, regular dental care and good oral hygiene at home will be essential to keeping your mouth as healthy as you can for the rest of your life.

References:

Mayo Clinic: *[Osteoporosis](#)*

American Academy of Pediatrics: *[Bisphosphonates: Mode of Action and Pharmacology](#)*

National Institute of Health: *[Bisphosphonates and Osteonecrosis of the Jaws](#)*

Journal of the American Dental Association: *[Oral Bisphosphonate Use and the Prevalence of Osteonecrosis of the Jaw](#)*

The New York Times: *[Patients With Normal Bone Density Can Delay Retests, Study Suggests](#)*

Welch, Dr. H. Gilbert, et al; *[Overdiagnosed: Making People Sick in the Pursuit of Health](#)*. Boston: Beacon Press, 2011.