



PATIENT FACT SHEET

Bisphosphonate Therapy



WHAT IS IT?

Bisphosphonates are a group of medicines used to treat bone problems, called osteopenia or osteoporosis, which are conditions associated with thin or fragile bones that are at increased risk for fracture. These medications are given to patients with low bone density or to patients with a history of fragility bone fractures in the hip, arm, wrist or spine. The medications help strengthen the bones and prevent future bone fractures. They are commonly prescribed with calcium and vitamin D to help keep the bones strong. In addition to treating osteopenia and osteoporosis, this group of medications may be used to treat Paget's disease, and cancer that has spread (metastasized) to the bone.

Family of Bisphosphonates includes:

Oral: Alendronate [Fosamax], risedronate [Actonel], and ibandronate [Boniva].

IV: Pamidronate, ibandronate and zoledronic acid [Reclast/Zometa].

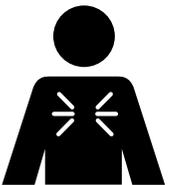
The bone cells in our bodies are constantly being slowly removed and replaced with new bone cells. This happens throughout our entire life. Osteoclasts are cells in our bodies that remove old bone and the osteoblast cells replace it with new bone. Bisphosphonates work by reducing osteoclast activity and hence reducing the turnover of bone or removal of old bone. As we age and in certain diseases, the bone is actually being removed or damaged faster than your body is able to replace it. This leaves the bones thin and weakened, and much more likely to fracture with even a small impact or a fall from a standing height. Bisphosphonate medications help to preserve your bone density and bone strength.



HOW TO TAKE IT

Alendronate, risedronate and ibandronate are oral medications taken either daily, weekly or monthly depending on your other medical conditions and disease being treated. Typically, in the treatment of osteoporosis, alendronate is given 70 mg by mouth once a week and risedronate is given by mouth 35 mg weekly or 150 mg monthly. Ibandronate is given orally 150 mg once a month. These medications have to be taken first thing in the morning on an empty stomach with an 8 oz glass of water. Do not take it with other beverages. You must remain upright (sitting or standing—no lying down) for 30 minutes after taking the medication. Do not take any additional

medications, beverages or food for 45 to 60 minutes after taking the medication. Your doctor will discuss the duration of treatment that is recommended for you. With a low fracture risk, your doctor may recommend that you take alendronate for 5 years, followed by a drug holiday (break from treatment). Zoledronic acid is given as an infusion through a vein in your arm at your doctor's office. The dose is 5 mg given once a year, with consideration given for discontinuing it (followed by a drug holiday) after 3 years if your fracture risk is low. Calcium and vitamin D are commonly recommended to be taken with these medications.



SIDE EFFECTS

Side effects to oral bisphosphonates include: muscle cramps/pain, pain with swallowing, heartburn, abdominal pain, nausea, headache, and/or rash. Side effects to zoledronic acid include low blood pressure, dizziness, fatigue, headaches, muscle pain, weakness, GI symptoms (nausea and constipation), fever and/or rash. These side effects may last 1 to 2 days and up to 10 to 12 days after your infusion.

For either oral or intravenous (injection into vein) medications, there is a rare risk of developing a jaw or tooth

problem, called osteonecrosis of the jaw. Osteonecrosis of the jaw is typically associated with trauma to the jaw (tooth extraction), history of malignancy and/or infections while on bisphosphonate therapy. It is recommended that you have a good dental exam prior to starting these medications. Notify your doctor if you develop side effects to the medications. Abnormal fractures of the femur (thigh bone) have been associated with bisphosphonate therapy, especially if taken for many years. An atypical femoral fracture typically presents as thigh pain.



TELL YOUR DOCTOR

Bisphosphonate medications stay in your body for long periods of time even after stopping the medication. You may be able to discontinue therapy with bisphosphonates after five years of use if your fracture risk is low. Continue to follow up with your doctor for monitoring and repeat bone density scans about every 1 to 2 years; your doctor will decide how often the test should be repeated. Prolonged use of bisphosphonates increases the risk of stress fractures in your thigh/hip (atypical femoral fracture). Tell your doctor if you develop any new pain

in the thighs. You should not take this medication if you have: kidney problems, low calcium levels, inability to stand or sit upright for at least 30 minutes. If you have difficulty swallowing or history of heartburn, you should not take an oral bisphosphonate; an infusion with zoledronic acid may be preferred. Do not take these medications if you are breastfeeding, pregnant, or may become pregnant. Remembering to take these medications regularly, and as directed, will increase your benefits from the medications. You can just stop the medication at any time, but please inform your doctor if you do.