



PATIENT FACT SHEET

Bisphosphonate Therapy



WHAT IS IT?

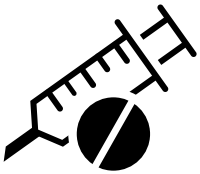
Bisphosphonates are a group of medicines used to treat bone problems, such as thin or fragile bones. These medications are given to patients with abnormal bone density scans or to patients with a history of abnormal bone fractures in the hip, arm, wrist or spine. The medications help prevent future bone fractures. They are commonly prescribed after calcium and vitamin D have failed to keep the bones strong. They are commonly used to treat bone disorders such as osteopenia, osteoporosis, Paget's disease, and metastatic bone disease.

Family of Bisphosphonates includes:

Oral: Alendronate (Fosamax), Risedronate (Actonel), and Ibandronate (Boniva).

IV: Pamidronate, 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 stopping the removal of old bone osteoclast activity. 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 bone thin/weak and much more likely to fracture with a significant impact or fall. Bisphosphonate medications damage/kill the osteoclasts and stop removal of old bone to try and preserve your bone strength.



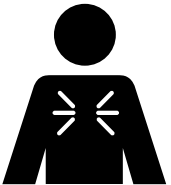
HOW TO TAKE IT

Alendronate, Risedronate and Ibandronate are oral medications given either daily, weekly, or monthly depending on your other medical issues and disease being treated. Typically, Alendronate is given 70mg by mouth once a week and Risedronate is given by mouth 35mg weekly or 150mg monthly. Ibandronate is given orally 150mg once a month. The dose may vary depending on the disease being treated. These medications have to be taken first thing in the morning on an empty stomach with 6-8oz 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 45-60 minutes after taking the medication. Discontinue after 5-7 years if the fracture risk is low.

Zoledronic acid is given through an IV at your doctor's office. The dose is 5mg given once a year, discontinuing after 3-5 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. There is a rare risk of developing jaw or tooth pain, called osteonecrosis of the jaw. It is typically associated with trauma to the jaw (tooth extraction), history of malignancy and/or infections while on bisphosphonate therapy. It is recommended you have a good dental exam prior to starting these medications. Notify your doctor if you develop side effects to the medications.

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 a few days to a week after your infusion. There is a rare risk of developing jaw or tooth pain, called osteonecrosis of the jaw. It is typically associated with trauma to the jaw (tooth extraction), history of malignancy and/or infections while on bisphosphonate therapy. It is recommended 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. This typically presents as thigh pain.



TELL YOUR DOCTOR

Bisphosphonate medications stay in your body for long periods of time even after stopping the medication. Discontinue therapy with bisphosphonates after 3-5 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 2 years. Prolonged use of bisphosphonates increases the risk of stress fractures in your thigh/hip. Tell your doctor if you develop any new pain in the thighs.

You should not take this medication if you have:

Kidney problems, difficulty swallowing, history of heartburn, low calcium levels, inability to stand or sit upright for at least 30 minutes.

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.