

## PHARMACY

Drug Information

# Medications to Treat Osteoporosis



### What is Osteoporosis?

- Osteoporosis is a condition characterised by low bone mineral density (BMD). Bone mineral density is the amount of bone mineral, particularly calcium, in bone tissue. Low bone mineral density increases the risk of fractures.
- Osteoporosis is diagnosed when the BMD T-score is -2.5 or lower. The T-score on your bone mineral density report shows how much your bone mass differs from the bone mass of other individuals.

### What are the Medications Used to Treat Osteoporosis?

Medication Class	Medication Name
Bisphosphonates	<ul style="list-style-type: none"> <li>• Alendronate (Fosamax®)</li> <li>• Risedronate (Actonel®)</li> <li>• Zoledronate (Aclasta® Injection)</li> </ul>
Selective Estrogen Receptor Modulator (SERM)	<ul style="list-style-type: none"> <li>• Raloxifene (Evista®)</li> </ul>
Others	<ul style="list-style-type: none"> <li>• Denosumab (Prolia® Injection)</li> <li>• Teriparatide (Forteo® Injection)</li> </ul>
Supplements	<ul style="list-style-type: none"> <li>• Calcium</li> <li>• Vitamin D</li> </ul>

### How Do the Medications Work?

Medication Class / Name	Function and Benefits
Bisphosphonates and Others (Denosumab)	Inhibits bone loss by slowing down the cells which break down bone
Selective Estrogen Receptor Modulator (SERM) (Raloxifene)	Preserves bone mass density
Others (Teriparatide)	Increases bone formation

Calcium	Acts as an essential element for bone formation
Vitamin D	Promotes absorption of calcium

### How are the Medications Taken?

Medication	Points to Note
Alendronate / Risedronate	<ul style="list-style-type: none"> <li>Alendronate 70mg / Risedronate 35mg: Take on <b>weekly</b> basis</li> <li>Alendronate 10mg: Take on <b>daily</b> basis</li> <li>Take on an empty stomach, first thing in the morning</li> <li>Swallow <b>whole</b> with a full glass of plain water</li> <li>Stay upright for at least 30 minutes after taking the medication and do not lie down, until after your first snack or meal of the day</li> <li>Wait at least 30 minutes before taking food, beverages or other medications</li> <li>Do not take milk, dairy products, antacids or calcium/iron/magnesium/aluminium supplements <b>within one hour of Alendronate</b> and two <b>hours of Risedronate</b></li> </ul>
Raloxifene	<ul style="list-style-type: none"> <li>Take on daily basis</li> </ul>
Denosumab / Zoledronate	<ul style="list-style-type: none"> <li>Injected by your doctor or nurse</li> </ul>
Teriparatide	<ul style="list-style-type: none"> <li>Inject subcutaneously daily</li> <li>Treatment duration: maximum of <b>24 months</b></li> </ul>
Calcium, Vitamin D supplements	<ul style="list-style-type: none"> <li>Take with or after food for better absorption</li> </ul>

### What Should I Do if I Miss a Dose?

- Take the missed dose as soon as you remember. If it is almost time for your next dose, take only the usual dose. Never take a double dosage to make up for the missed dose.

### Can the Medications Be Taken with Other Medications?

- Please inform your doctor or pharmacist if you are taking other medications, including supplements, traditional or herbal remedies.

### What are the Important Side Effects of the Medications?

- Medications prescribed by your doctor should be beneficial for your condition, even though they may result in some side effects.

Medication Class	Side Effect	Management
Bisphosphonates <ul style="list-style-type: none"> <li>Alendronate</li> <li>Risedronate</li> <li>Zoledronate</li> </ul>	Mild diarrhoea, nausea, flatulence or constipation, transient flu-like symptoms	May improve as you get used to the medication. If side effects persist, speak to your doctor.
	<ul style="list-style-type: none"> <li>Unusual or severe stomach pain, pain on swallowing</li> <li>Severe bone, muscle or joint pain</li> <li>Severe jaw pain</li> </ul>	Inform your doctor immediately.
Selective Estrogen Receptor Modulator (SERM) <ul style="list-style-type: none"> <li>Raloxifene</li> </ul>	Hot flushes, leg cramps, flu-like symptoms	May improve as you get used to the medication.
	Swelling of feet or ankles	Elevate your legs. If side effects persist, speak to your doctor.
	Chest pain, severe leg pain, severe headaches and vision changes	Inform your doctor immediately.

Denosumab	Mild back/ joint pain, constipation	May improve as you get used to the medication. If side effects persist, speak to your doctor.
	Severe jaw pain, skin tenderness and swelling (may be accompanied with fever), severe muscle pain, spasms, weakness	Inform your doctor immediately.
Teriparatide	Nausea, vomiting, headache, dizziness, fast heartbeat, fatigue	For the first few doses, administer the injection where you can sit or lie down right away if you get dizzy. This may improve as you get used to the medication. If side effects persist, speak to your doctor.
	<ul style="list-style-type: none"> <li>Pain/ swelling/ bruising at injection site, muscle cramps</li> <li>Mood changes e.g. low mood, anxiety</li> </ul>	If side effects persist, speak to your doctor.
Calcium, Vitamin D supplements	Constipation	Ensure adequate intake of fruits, vegetables and fluids (if no fluid restriction).

If you develop rashes, facial swelling or shortness of breath after taking the medication, you could be allergic to the medication. Please seek medical attention immediately.

### Are There any Special Precautions That I Need to Take?

- It is important to inform your doctor if you intend to conceive or breastfeed while taking this medication.

### Do I Need Regular Monitoring When Taking the Medications?

- Your doctor may do regular blood tests to monitor your calcium levels and kidney function.
- You may also require a BMD scan to evaluate the effectiveness of the medications on your condition.

### How Do I Store the Medications?

- Store Denosumab and Teriparatide in a refrigerator between 2 – 8°C. Do not freeze.
- Store your other medications in a cool, dry place away from heat, moisture and direct sunlight.

### What Else Can I Do to Help My Condition?

#### Adopt a Healthy Diet and Lifestyle

- Maintain a nutritionally balanced diet containing sufficient amounts of calcium and vitamin D.
- Reduce your alcohol intake and stop smoking.
- Exercise regularly to improve muscle strength and postural stability.

#### Minimise Falls

- Use non-slip mats, keep obstructions out of walkways and have adequate lighting at home.

If you have any problem with your treatment, please contact your doctor, pharmacist or nurse clinician.

Please keep all medications out of reach of children.

