

Medicines Optimisation

Best Practice Guidance for Care Homes

Bisphosphonates

Bisphosphonates are medicines which are prescribed to slow the rate that bone is broken down in the body. This helps to keep the bones strong and reduces the risk of a broken bone, known as a fracture.

Bisphosphonates can be prescribed for many reasons including:

- People with a diagnosis of osteoporosis or are at risk of developing osteoporosis – this is a condition that causes the bones to weaken and increases the risk of bone fractures
- People who have already had a broken bone
- People who may be at risk of falls due to medication.
- People who take long-term steroids (more than 3 months), or repeated short courses of high-dose steroids. A common side effect of steroids is osteoporosis
- People who may have a low bone density due to age, weight, diet, or family history.

The most common bisphosphonates prescribed are alendronic acid 70mg tablets or risedronate 35mg tablets. These are usually prescribed as a **ONCE WEEKLY** dose. Occasionally alendronic acid 10mg may be prescribed which is given **ONCE DAILY**. You may have a person who takes ibandronic acid 150mg, this is usually a **ONCE MONTHLY** dose. Some people may also be prescribed zoledronic acid which is given as an infusion in hospital. The frequency of how often this is given depends on why the treatment is prescribed.

How to take bisphosphonates

Bisphosphonates can be effective in preventing fractures in people at risk, but it is very important that they are taken correctly.:

- Make sure that the tablet is being administered on the correct day. For weekly alendronic acid and risedronate, this should be the same day each week. For monthly ibandronic acid this must be the same day each month
- They should be taken first thing in the morning on an empty stomach.
- The tablet should be swallowed whole with a glass of water and the resident must sit upright or stand for 30 minutes (or 60 minutes if taking ibandronic acid). This is because bisphosphonates can irritate the upper part of the gullet.
- The person must wait between 30 minutes and 2 hours before eating or drinking anything (other than water). Taking bisphosphonates with food will reduce how much of the medicines is absorbed. The patient information leaflet included in the box will tell you exactly how long the person must wait before eating or drinking.

If a resident is struggling with their bisphosphonate, or develops a swallowing problem, inform the GP straight away as it may be not to be appropriate for the resident to continue with it.

How to record administration on a MAR chart

- The MAR/eMAR chart can be clearly marked to highlight which day the next dose of bisphosphonate is due. This can be done by circling the box when the dose is due. Do not cross through the boxes the medication is not due in advance as on occasions a clinician may advise for the medication to be withheld and taken on a different day.
- For alendronic acid and risedronate, make sure the dose is given on the same day each week and highlight this on the MAR/eMAR chart.
- For ibandronic acid, make sure that the date is marked clearly on the MAR chart. This should be the same date each month. At the end of the month, the information must be transferred correctly onto the new MAR/eMAR chart.
- It is very important the bisphosphonate is given on the correct day. If it is administered on the wrong day, this should be recorded in the care plan, on the MAR/eMAR chart, and the GP should be informed.

Side effects

Bisphosphonates can cause some common side effects (see the relevant patient information leaflet). The risk of these side effects can be reduced by carefully following the instructions on how to take these medications. These side effects are most common in the first month but can occur at any time and include:

- Nausea and tummy pain
- Indigestion and heartburn
- Diarrhoea
- Constipation
- Joint, and/or muscle pain – this is usually not severe. The pain can start a few days or a few months after first starting treatment and will go away after the bisphosphonate has been stopped.

Some people may experience less common side effects which may be more serious and should always be reported to the GP. These include²:

- New joint or muscle pain which is severe
- Worsening heartburn, chest pain, or painful and/or swallowing difficulties - the medication should be withheld and GP contacted
- Jaw pain or swelling - on rare occasions bisphosphonates can cause the jawbone to weaken and die
- Ear pain or discharge from the ear – this can be a sign of bone damage to the inner ear
- New hip, groin or thigh pain – a very rare side effect of bisphosphonates is a broken thigh bone
- Black poo or visible blood in the poo – this can be a sign of an ulcer or bleeding in the gut
- Blurred vision, painful or red eyes – these can be signs of swelling of the eye

There are several other side effects carers should be aware to look out for in people taking bisphosphonates. **Please read the leaflet in the medication box.**

Calcium and vitamin D supplements

Calcium and vitamin D supplements are usually prescribed in addition to bisphosphonates as they also help reduce the rate of bone loss.

- The directions from the GP should state clearly when they should be taken.
- They can affect the absorption of the bisphosphonates, so should not be given at the same time of day. The calcium preparation should be given at least 4 hours later.
- Sometimes the instructions may state that they should be omitted completely on the day the bisphosphonate is taken.
Seek advice from a pharmacist and update the MAR/eMAR chart accordingly, if required.

How long should bisphosphonates be taken for?

Bisphosphonates are usually taken long-term as it can take several months for them to start working. If the person is taking a bisphosphonate for long-term steroid treatment, the bisphosphonate is usually taken until the steroids are stopped. For other conditions, bisphosphonates should be taken for at least three to five years and then should be reviewed to see if they are still needed. This may include tests to check the strength of the bones. There is evidence from some studies that show bisphosphonates keep working on the bone for a few years after the medication has been stopped. It may also be that taking them for longer than five years does more harm than good. More studies are being done to find out exactly how long bisphosphonates should be taken. Following review and any test results, some people will need to continue to take a bisphosphonate, some can stop taking it completely, and some may be able to take a break from taking it¹.

Consider requesting a GP review for people who have a bisphosphonate prescribed and are bedbound or hoisted for all transfers as they will have a low risk of falls and therefore less chance of having a fracture. They will also be more at risk of side effects to their gut as they are less likely to be able to stay upwards for the required time after taking their medication. It may be possible for the bisphosphonate and any calcium supplements they are also prescribed to be stopped.

References

1. NHS Osteoporosis. [Osteoporosis - NHS](#) October 2022.
2. Versus Arthritis. Bisphosphonates. [Bisphosphonates | Side-effects, uses, time to work](#). Accessed 26/11/24
3. Patient. Bisphosphonates. [Bisphosphonates: how do bisphosphonates work?](#). March 2023

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1.0	January 2015	Prescribing & Meds Man Team. JC/SW	FINAL	wording amendments implemented
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