



Adjuvant bisphosphonate

Information for patients from the Kent Oncology Centre

This leaflet is intended to support you in making decisions about **the role of bisphosphonates in your breast cancer care**.

What are bisphosphonates?

Bone constantly undergoes a process of renewal. Specialised bone cells break down old bone and replace it with new bone every day. This process helps to repair damage to the skeleton from everyday activities. We call this process bone turnover. However, as we age this process becomes less efficient and the bones become thinner and weaker.

Bisphosphonates are a group of medications that have been used to treat thin bones (osteoporosis) for decades. Bisphosphonates control the cells that break down bone (osteoclasts) and allow the cells that rebuild bone (osteoblasts) to work better. As a result, they increase bone density and strength and thereby reduce the risk of fractures especially at the wrist, hip, and spine.

Why are bisphosphonates being used to treat breast cancer?

Clinical studies have shown that breast cancers can sometimes recur in and spread to bones, often many years after patients have had an operation to remove the cancer from their breast. Doctors think this could be because the chemicals that control bone turnover could also encourage the growth of breast cancer cells inside bones.

Clinical trials of bisphosphonates in early breast cancer began in the 1990s. These drugs were added to standard treatments after breast surgery, like chemotherapy and tamoxifen, and compared to these standard treatments alone. These clinical trials found that bisphosphonates reduced the risk of breast cancer coming back in patients' bones and often meant that patients lived longer.

Not all patients had the same degree of benefit though. The greatest benefits from bisphosphonates were seen in two groups of women.

- Post-menopausal women; and
- Pre-menopausal women who were treated with drugs to suppress their ovaries.

In these groups of women, one in three recurrences of breast cancer in the bone and one in six deaths from breast cancer at 10 years after diagnosis were prevented.

Who can take bisphosphonates?

Specialists are prescribing this treatment to the following women.

- Post-menopausal women who have had their breast cancer completely removed; and
- Pre-menopausal women who are on additional drugs to suppress their ovaries as part of their standard treatment after surgery.

Individuals whose kidneys are not working normally will take a reduced dose.

Bisphosphonates are not licensed for use in breast cancer patients to prevent recurrence of the disease, so they must be started by a specialist in hospital who has the appropriate experience. They will advise your GP on the recommended treatment and for how long you should take the medication for.

How do I take bisphosphonates?

How you take bisphosphonate will depend on whether you are having chemotherapy as part of your treatment plan. Bisphosphonates will be given through a drip into a vein using a drug called zoledronic acid.

We recommend you take the treatment over three years. If you are receiving chemotherapy you will receive three doses of zoledronic acid into a vein about every six weeks, at the time you have your chemotherapy injections. This will only add about 15 minutes to the time it takes to give your chemotherapy and should not affect the chemotherapy side effects.

Once you have finished chemotherapy you will then have a zoledronic acid infusion at six, 12, 18, 24, 30, and 36 months.

What side effects might I experience?

Most people will not experience side effects and if they do they are usually short lived. Specific side effects include:

- flu like symptoms such as fever, aching muscles or headache: mild painkillers, such as paracetamol or ibuprofen, can be taken if needed.

Rare side effects

There is a link between drugs from the bisphosphonate family and the following rare conditions.

- **Osteonecrosis of the jaw** is a condition where some cells in the jaw bone die. This means that the jaw may be slow to heal. It is mostly linked with high doses of bisphosphonate drugs and so is unlikely to occur with six monthly intravenous treatments. Only a small number of cases are described worldwide, so the risk with the treatments we are recommending is low (affecting probably less than one patient in 100).

As a precaution, people taking this treatment **must have a full dental assessment before they start treatment** and get approval from their dentist to have bisphosphonates. Patients are **advised to have**

regular dental check-ups but should not have non-emergency dental work done six weeks before or after an infusion.

- A link to **osteonecrosis of the auditory canal** is also reported. This is very rare (fewer than one in 10,000 patients). People taking this treatment are advised to report persistent ear pain and/or discharge from their ears.
- There is also a possible link between taking long term use of bisphosphonate treatment and developing **a stress fracture of the thigh bone**. This is extremely unlikely to be a problem in the treatment of breast cancer (affecting less than one patient in 10,000) as we will be asking you to take the medication for only three years in total. If you develop aching pain in your thigh while taking treatment you should let your doctor know.
- **Irregular heartbeats or inflammation in the eye** (very rare).

Is there anything I should look out for whilst taking bisphosphonates?

Some patients experience 'flu like' symptoms such as fever, aching muscles, or headache with the first dose. These usually stop after the first couple of days and are less likely to happen with later treatments. If symptoms continue, speak to your specialist or GP.

If you experience any of the following symptoms whilst taking this medication, we advise you to see your doctor.

- Persistent ear pain and / or discharge from your ear.
- Persistent jaw pain and / or ulceration of your gum.
- Aching pain in your thigh.

You are also advised to have regular dental check-ups whilst taking this medication.

Do I need to take extra calcium or vitamin D?

It is recommended that you have an adequate calcium and vitamin D intake whilst on bisphosphonate treatment. Calcium intake should be sufficient if you have a well balanced diet. Two glasses of milk and either a portion of cheese or a yoghurt daily should provide enough calcium.

For vitamin D you should take an over the counter supplement (available from chemists and supermarkets at a recommended dose of 800 to 1000 IU daily). Further information is available on the Association of UK Dietitians (BDA) website (<https://www.bda.uk.com/food-health/food-facts.html>).

Regular weight bearing exercise is also recommended, such as activity where your feet and legs support your weight.

Can I choose to stop receiving bisphosphonates?

Yes, you can stop at any time. If you feel that the side effects are too much for you, or your quality of life is suffering, you may wish to stop treatment.

The oncology team will understand and respect your decision if you decide to stop treatment.

Other general advice

It is best to avoid smoking and keep the amount of alcohol you drink within the recommended limits after a diagnosis of breast cancer.

Where can I find further information?

Further information about bisphosphonates may be available from the staff treating you at the hospital and from your GP.

Information is also available from the Royal Osteoporosis Society and British Dietetic Association.

- Royal Osteoporosis Society (<https://theros.org.uk/>)
Camerton, Bath BA2 0PJ
Helpline: 0808 800 0035 (free phone)
Helpline email (nurses@theros.org.uk)
- The Association of UK Dietitians (BDA) (<https://www.bda.uk.com/>)
3rd Floor Interchange Place, 151-165 Edmund Street
Birmingham B3 2TA
Helpline: 0121 200 80 80
General enquiries email (info@bda.uk.com)

Notes (for you to complete)

	Name	Telephone
Key worker		
Oncologist		
Palliative care		
GP		
District nurse		
Other		

Further information and advice

- **Dietetic Service**
Offers advice on managing diet related side effects of palliative chemotherapy.
Telephone: 01227 864236
- NHS 111 (<https://www.nhs.uk/nhs-services/urgent-and-emergency-care-services/when-to-use-111/>)

This leaflet has been produced with and for patients.

If you would like this information in **another language, audio, Braille, Easy Read, or large print** please ask a member of staff. You can ask someone to contact us on your behalf.

Any complaints, comments, concerns, or compliments please speak to your doctor or nurse, or contact the Patient Advice and Liaison Service (PALS) on 01227 783145 (tel://+441227783145), or email ekh-tr.pals@nhs.net (ekh-tr.pals@nhs.net)

Patients should not bring large sums of money or valuables into hospital. Please note that East Kent Hospitals accepts no responsibility for the loss or damage to personal property, unless the property has been handed into Trust staff for safe-keeping.

Further patient leaflets are available via the East Kent Hospitals website (<https://www.ekhuft.nhs.uk/information-for-patients/patient-information/>).

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