Secondary breast cancer in the bone

This booklet is for anyone who has been diagnosed with secondary breast cancer in the bone. It describes what secondary breast cancer in the bone is, what the symptoms are and the treatments that may be used.
We hope this booklet answers some of your questions and helps you discuss your options with your specialist team. We suggest you read it alongside our Secondary breast cancer resource pack. This looks in more detail at the physical and emotional impact of a secondary diagnosis.

What is secondary breast cancer in the bone?

Sometimes cancer cells spread to the bones in different parts of the body through the blood and lymphatic system. The cancer cells that have spread to the bone are breast cancer cells. It’s not the same as having cancer that starts in the bone.

When breast cancer spreads to the bone, it can be treated (often for many years) but it cannot be cured. The purpose of treatment is to try and relieve symptoms and/or slow the growth of the cancer.

You may hear this described as advanced breast cancer, metastases, recurrence of the cancer, secondary tumours, stage 4 or secondaries.

The bone is the most common site of secondary breast cancer. The bones most commonly affected are the spine, ribs, skull, pelvis, or upper bones of the arms and legs.

The bones

To understand some of the symptoms described in this booklet it may help to know more about the bones.

Bone contains two main types of living cells:

- osteoclasts which destroy and remove small amounts of old or damaged bone
- osteoblasts which help build up new bone.

This process continues throughout your life to keep the skeleton healthy and strong.

When breast cancer cells spread to the bone, chemicals are produced that disrupt this process. The osteoclasts become overactive resulting in more bone being broken down than is being replaced. This can lead to some of the symptoms of secondary breast cancer in the bone.
Symptoms and how they can be managed

You may have a number of different symptoms or none at all. Many people with secondary breast cancer in the bone feel quite well and their symptoms can be controlled.

You should talk to your specialist team about any new symptoms you have, as they can also be a sign of conditions, such as arthritis.

Pain

Secondary breast cancer in the bone can cause pain in or near the affected area that ranges from mild to severe. Each person’s experience of pain is different. For example, the pain may feel like a dull ache or a burning or stabbing pain. You may find that the pain is persistent or it may be worse at certain times, such as night time. Certain movements may affect it and there may be tenderness at the site of the pain. If the pain is not well controlled, it can affect your mobility and quality of life but most pain can be relieved or controlled. Try to be as specific as possible when you’re telling your doctor or nurse where the pain is and what it feels like. This will help them decide how to control your pain.

You may find it helpful to record this in a ‘pain diary’. You can get a pain diary from your doctor or nurse, or you’ll find one in our Secondary breast cancer resource pack.

There are a number of effective treatments for pain. They can be used on their own, or with other pain-relieving treatments. The aim is to ensure that any pain feels well controlled at all times. This may mean taking the drugs regularly, even if you are not in a great deal of pain, because waiting until the pain gets worse can make it more difficult to control.

If your pain relief doesn’t seem to be helping, ask your GP or specialist if they can prescribe a different one. You may also be given extra pain relief that you can take in between your scheduled doses, should you have any additional pain (often called breakthrough pain).

If your pain is not under control you can be referred to a specialist palliative care or symptom control team.
Bone weakening and/or fracture
Secondary breast cancer in the bone may mean that the affected bones are weakened, which can increase the risk of a fracture (breaking a bone). This is called a pathological fracture; this means the break in the bone is due to disease and not as a result of an accident.

If a bone has fractured then you may need to have surgery to try to repair the fracture. You may also be given drug treatment to stop this from happening in the future (see page 9).

Spinal cord compression
If you have secondary breast cancer in the vertebrae (the bones in your spine) and a vertebra fractures or collapses it can cause pressure on the spinal cord (spinal cord compression).

The symptoms of spinal cord compression can include:
- an increase in pain around the spine
- tenderness over the spine in the area affected
- changed sensation such as pins and needles or weakness in the legs
- incontinence (loss of control of the bladder and/or bowels).

If you experience any of these symptoms it’s important to tell your specialist team or GP without delay. Spinal cord compression needs to be treated as an emergency to reduce any long-lasting effects.

If the symptoms appear very rapidly (over a few days) and affect a small area of the spine, surgery may be the first treatment choice. If the symptoms appear over a longer period of time (weeks or months) radiotherapy may be recommended before surgery. With either treatment you’ll also be given steroids to reduce swelling (inflammation). Sometimes a combination of all three treatments is used.

Hypercaclemia (too much calcium in the blood)
Bone releases calcium and other proteins that make the bone structure strong. Secondary breast cancer in the bone can alter the bone structure so that too much calcium is released into the bloodstream.
If the calcium level in the blood is too high you may get symptoms such as:

- nausea and vomiting
- constipation
- drowsiness
- being very thirsty
- weakness
- confusion.

To relieve your symptoms you might be told to drink plenty of water but you'll usually need to be given fluids intravenously (directly into a vein), to help flush the calcium out of the body. You may also have other drug treatment to stop this from happening in the future (see page 7).

**Anaemia**

In some cases secondary breast cancer may affect how the bone marrow works. Bone marrow is the hollow part of the bone where blood cells are made. This may cause immature blood cells (cells at an early stage of development) to be released into your bloodstream causing problems such as anaemia (lack of red blood cells), which can cause other symptoms such as tiredness and/or breathlessness.

A blood test and a bone marrow biopsy may be needed to confirm a diagnosis. Anaemia can be treated with a blood transfusion.

**Fatigue**

Cancer-related fatigue is one of the most common symptoms experienced by people with secondary cancer. Everyone knows what it feels like to be tired sometimes, but cancer-related fatigue can feel much more severe. It can come and go or be unrelenting, and this can be distressing and frustrating. It has many causes, from psychological factors such as the stress of coping with the diagnosis, to physical ones such as the side effects of treatment or progression of the cancer.

Fatigue may have a significant impact on your ability to cope with your cancer and its treatment.

It can also affect your everyday activities and have an adverse effect on your quality of life. However, there are things you can try to help you manage fatigue and reduce its effects.

- Tell your doctor, as its cause may be treatable.
- Plan your days so you have a balance of activity and rest.
• Try to have short, achievable periods of physical activity each day, even if it’s a short walk.
• Accept that you may have good days and bad days.
• Try to prepare for a special occasion by resting beforehand.
• Try to eat well. If your appetite is poor, it may help to eat smaller amounts more often and drink plenty of fluids to keep hydrated. You could also ask to be referred to a dietitian for advice.
• Accept offers of practical help from other people to save your energy for things you enjoy.

What investigations will I need?

You may need one or more of the following tests in order for your doctor to confirm a diagnosis of secondary breast cancer in the bone.

X-ray of the bone
An x-ray can show changes in the bone. The x-ray may not be able to pick up small areas of cancer.

Bone scan
A bone scan checks the whole skeleton and is used to assess any increase or breakdown in bone growth. It can help identify changes, such as injury or healing, or disease such as cancer.

A small amount of radioactive substance (not enough to do any harm) is injected into a vein, usually in the arm, two to three hours before the scan. If there has been a change in the bones there will usually be an increased uptake of the radioactive substance in the area (often called a ‘hot spot’). The scan is not painful but you will have to lie flat and still for about an hour.

MRI scan (magnetic resonance imaging)
This scan uses magnetism and radio waves to produce a series of cross-sectional images of the inside of the body. An MRI scan is not painful but you will have to lie flat and still for up to an hour.

PET-CT scan
This combines a CT (computerised tomography) scan with a PET (positron emission tomography) scan in one test to create a more detailed picture.
• A CT scan uses x-rays to take a series of detailed pictures across the body, also known as a CAT scan.
• A PET scan shows how effectively parts of the body are working.

It’s not often used to diagnose secondary breast cancer in the bones but it may help your specialist team see how far the cancer has spread and how well it’s responding to treatment.

**Blood tests**
You may have blood tests although the type of test can depend on your symptoms and any treatment you are currently having. Your specialist team will discuss what tests they are doing and why you are having them.

Some people have a blood test for tumour markers. These are proteins found in the blood which may provide additional information about how you are responding to treatment but there is some debate about how accurate they are so they are not always used.

**What treatments might I be offered?**
As well as treatments to relieve your symptoms, you will also be offered treatments aimed at slowing down the growth of the cancer. Your treatment may include chemotherapy, hormone therapy, targeted therapies (sometimes called biological therapies), surgery or radiotherapy, either alone or in combination.

The treatment you are offered will depend on a number of factors. These include your symptoms, whether or not you have had your menopause, the type of cancer you had originally, treatments you have had in the past and your general health. Your specialist team will discuss your treatment options with you and help you weigh up the potential benefits against the possible side effects and explain what the aim of the treatment will be for you.

**Chemotherapy**
A number of chemotherapy drugs are used to treat secondary cancer. These drugs may be given alone or in combination. The drugs you have will depend on what you had before and how long ago. Secondary breast cancer in the bone can be slow to respond to chemotherapy and you may need several treatments before any benefit can be seen. For more information, see our [Chemotherapy for breast cancer](#) booklet.
Hormone therapy
Hormone therapies are used to treat cancers that are stimulated to grow by oestrogen (oestrogen receptor positive). If you’ve had hormone therapy before, your doctor may prescribe the same drug again or change it to a different one. It can take two to three months before the benefits of the hormone therapy are seen.

For more information on different hormone therapy drugs, see our individual booklets.

Targeted cancer therapies for breast cancer
This group of drugs works by blocking specific ways that breast cancer cells divide and grow. The most widely-used targeted therapy is trastuzumab (Herceptin), but the benefits of others are being looked at in clinical trials, so it is likely more targeted therapies will become available in the future.

Only people whose cancer has high levels of HER2, (HER2 positive) a protein that makes cancer cells grow, will benefit from having trastuzumab. To find out whether your breast cancer is HER2 positive, a test is usually done on tissue removed in your original surgery. Although it is rare your specialist may discuss taking a sample of bone to retest for HER2 receptors depending on your individual situation. For more information see our Trastuzumab (Herceptin) booklet.

Surgery
Orthopaedic surgery (which involves the muscles and the bones) may be considered either to treat a fracture or to try to stabilise a bone that has become weakened due to the cancer.

Sometimes surgery is also a treatment option for spinal cord compression – this type of surgery is called decompression surgery.

Radiotherapy
The aim of radiotherapy is to reduce pain and prevent further spread to the area affected. Radiotherapy carries on working after the treatment has finished, so you may not feel the benefits until a couple of weeks later and it’s not uncommon to still have pain after radiotherapy for a number of days. You might hear this referred to as transient pain.

Radiotherapy is usually given as a single dose or divided doses over a few days. This means that the side effects are likely to be minimal.

Radiotherapy is usually only given once to an affected area.
**Radioisotopes**
This is another way of giving radiotherapy, although it is rarely used for secondary breast cancer in the bone. A radioisotope is given in a liquid form as an injection into the vein. The radioisotope travels through the bloodstream and delivers radiotherapy to the bones affected by the cancer cells. It’s sometimes useful when there are several areas of cancer throughout the body.

**Vertebroplasty**
This is a newer treatment and is not commonly used. Other treatments are usually tried first. If the secondary breast cancer is causing severe back pain and damage to the bones in the spine, you may be able to have an injection of bone cement into the bones to stabilise and strengthen them, and relieve pain. This is called a vertebroplasty and is done in the x-ray department. It takes about an hour and you can usually go home later that day.

**Bisphosphonates**
Bisphosphonates are drugs that work by reducing the number and action of the osteoclasts (see ‘The bones’ section) in the bones. This slows the process of bone breakdown while allowing the production of new bone to carry on as normal.

Bisphosphonates can strengthen existing bone and reduce the damage caused by cancer in the bone. And they also help to reduce and control the levels of calcium in the blood.

**How bisphosphonates are given**
Bisphosphonates can be given as a tablet/capsule (orally) or into a vein (intravenously). Both oral and intravenous treatments are effective and your specialist will recommend whichever is most appropriate for you.

They are usually given for as long as the secondary cancer in the bone is under control.

**Oral bisphosphonates**
Oral bisphosphonates are taken daily. Ideally they should be taken first thing in the morning on an empty stomach with water only. They can’t be absorbed when there is food or calcium-containing liquid, such as milk, in the stomach. This means, you should not eat or drink anything one hour before and up to one hour after taking your bisphosphonate as they can affect the way bisphosphonates are absorbed.
• Ibandronic acid (Bondronat) given as tablets. After taking them, it’s important to wait for at least 30 minutes before you eat, drink or take any other medication. You should also stay sitting or standing for one hour after taking them to avoid any irritation to the oesophagus (gullet).

• Disodium clodronate (Bonefos, Loron, Clasteon) can be either a given as a tablet or capsule. There is no need to stay sitting or standing after taking them and, if you wish, you can lie down immediately.

**Intravenous (IV) bisphosphonates**

Intravenous bisphosphonates can be given at your local hospital or hospice. Usually you’ll need some blood tests before the treatment is given. This includes a test to monitor your kidney function (see ‘Side-effects of bisphosphonates and denosumab’ opposite) and to check the levels of calcium in your blood.

• Disodium pamidronate (Aredia) is given over a period of 90 minutes, every three to four weeks.

• Ibandronic acid (Bondronat) is given over a period of 15 to 60 minutes, every three to four weeks.

• Zoledronic acid (Zometa) is given over a period of 15 to 30 minutes, every three to four weeks. Once you’ve had this treatment for around a year you may be able to have it every 12 weeks instead.

**Denosumab (Xgeva)**

Denosumab is a targeted therapy and is one of a group of cancer drugs called monoclonal antibodies. It is used for the treatment of secondary breast cancer in the bone. It works by attaching to a substance called Rank Ligand (RANKL) (receptor activator of nuclear factor k), which is involved in activating osteoclasts and causing bone to be broken down. By blocking RANKL, denosumab reduces bone loss, making complications of secondary breast cancer in the bone less likely to happen.

It’s usually given for as long as the secondary cancer in the bone is under control.

**How denosumab is given**

Denosumab is given as an injection under the skin (subcutaneous injection) once every four weeks.
Side-effects of bisphosphonates and denosumab

Side effects of bisphosphonates vary between the different drugs. Side effects from denosumab are usually mild. If you’re concerned about any side effects, regardless of whether they’re listed here, talk to your specialist team as they may be able to help you manage them.

Bisphosphonates and denosumab can cause the calcium levels in the blood to drop too low (hypocalcaemia). Early symptoms include tingling around the mouth and lips and in the hands and feet. If it happens, it generally won’t be until after you have had a few injections and can usually be prevented by taking calcium and vitamin D supplements (see below).

In rare cases IV bisphosphonates can cause kidney damage, though not all bisphosphonates carry the same risk. Your doctor will check your kidney function before prescribing IV bisphosphonates.

Osteonecrosis of the jaw (when bone in the jaw dies) is a rare long-term side effect of bisphosphonates. Good dental hygiene reduces the risk of this.

You should visit your dentist before starting treatment with denosumab and it’s important to let them know you’ll be taking denosumab and/or bisphosphonates as they can cause problems such as infection and delayed healing following dental surgery.

Being pregnant when taking bisphosphonates or denosumab may have a harmful effect on a developing baby. Some women can still become pregnant even if their periods are irregular or have stopped, so effective barrier contraception such as a condom should be used.

Taking calcium and vitamin D supplements with bisphosphonates and denosumab treatments

You will often be prescribed a calcium and vitamin D supplement with your bisphosphonates and denosumab to prevent the calcium levels in your blood from dropping too low.

It’s also advisable to have a well-balanced diet including foods that contain calcium and vitamin D.
Calcium is found in most dairy products such as milk and cheese, and in many other foods, including green leafy vegetables such as spinach or broccoli. Calcium is also found in baked beans, sardines, pilchards, nuts and dried fruits such as apricots and figs.

Vitamin D helps your body absorb calcium and is found in butter, margarine, egg yolks and oily fish like herrings and sardines, cod liver oil and fortified breakfast cereals. Vitamin D can also be absorbed from sunlight through the skin.

**Living with secondary breast cancer in the bone**

People diagnosed with secondary breast cancer in the bone can feel well and have long periods of time without symptoms. However, finding out that your cancer has spread to the bone may leave you feeling a range of emotions. There may be times when you feel overcome by fear, anxiety, sadness, depression or anger. The uncertainty of living with secondary cancer can often leave you feeling emotionally very up and down.

You may be able to cope with these feelings on your own or with the support of those closest to you. Some people want support from professionals: you can talk to your breast care nurse, palliative care nurse (who may be a Macmillan nurse), clinical trials nurse, hospice or home care specialist nurse. They will have a greater understanding of the specific needs of people with secondary cancers and will be familiar with different ways of coping and adapting to the diagnosis. They also have specialist knowledge in helping with pain and symptom control, or can put you in contact with someone who does.

If you are not in regular contact with a palliative care nurse or Macmillan nurse you can ask for a referral to be made through your GP or hospital. You could also contact the breast care nurse who supported you during your treatment for primary breast cancer if you had one.

You can also contact the Breast Cancer Care Helpline on 0808 800 6000 to talk through your concerns and find out what support may be available in your area.

If you would like more help to look at ways of coming to terms with your secondary diagnosis, you can ask if it is possible to speak to a counsellor or psychotherapist.
Helping you face breast cancer

A diagnosis of secondary breast cancer can be overwhelming. And the support you need might feel like it’s hard to come by. We’re here to help. Meet other women with secondary breast cancer and get specialist information on topics relevant to you with our living with secondary breast cancer services. We can help you feel less alone and more in control to make confident decisions about your treatment, lifestyle and care.

Ask us
Our free Helpline is here to answer any questions about breast cancer and talk through concerns. Or you can Ask the Nurse by email via our website.

Free Helpline 0808 800 6000 (Text Relay 18001)
Monday–Friday 9am–5pm, Saturday 10am–2pm
www.breastcancercare.org.uk/ATN

Meet people like you
Come along to our free Living with Secondary Breast Cancer meet-ups for a chance to chat and share experiences with people who understand what it means to live with secondary breast cancer.

They’re also a unique opportunity to increase your knowledge as we run longer sessions with guest expert speakers every other month. Topics include pain management, fatigue, claiming benefits and side effects of treatment. Call 0345 077 1893 or visit www.breastcancercare.org.uk/secondary to find out more.

Talk to someone who understands
Exchange tips on coping with the side effects of treatment, ask questions, share experiences and talk through concerns at our website’s discussion Forum. There’s a dedicated area for people with secondary breast cancer, it’s easy to use and professionally hosted. Live Chat sessions exclusively for people living with secondary breast cancer take place weekly in a private area of our website. Each session is facilitated by an experienced moderator and a specialist nurse who can point you to sources of help and information. But for most people, being able to talk to others who know what you’re going through is what counts.
We’re here for you: help us to be there for other people too

If you found this booklet helpful, please use this form to send us a donation. Our information resources and other services are only free because of support from people such as you.

We want to be there for every person facing the emotional and physical trauma of a breast cancer diagnosis. Donate today and together we can ensure that everyone affected by breast cancer has someone to turn to.

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Please return this form to Breast Cancer Care, Freepost RRKZ-ARZY-YCKG, 5–13 Great Suffolk Street, London SE1 0NS
About this booklet

Secondary breast cancer in the bone was written by Breast Cancer Care’s clinical specialists, and reviewed by healthcare professionals and people affected by breast cancer.

For a full list of the sources we used to research it:

Phone 0345 092 0808
Email publications@breastcancercare.org.uk

You can order or download more copies from www.breastcancercare.org.uk/publications

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Breast Cancer Care is the only UK-wide charity providing specialist support and tailored information for anyone affected by breast cancer. Our clinical expertise and emotional support network help thousands of people find a way to live with, through and beyond breast cancer. Visit www.breastcancercare.org.uk or call our free Helpline on 0808 800 6000 (Text Relay 18001).

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