Treatment Guide
for patients with
Bone Metastases
Disclaimer

This is general information developed by The Ottawa Hospital. It is not intended to replace the advice of a qualified health-care provider. Please consult your health-care provider who will be able to determine the appropriateness of the information for your specific situation.
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This booklet will give you and your family information about bone metastases. Some of this information may not apply to you.

You should review this booklet with your doctor, nurse or health-care team. They can explain how best to use this information and will answer your questions and concerns.

**What are bone metastases?**

‘Metastasis’ means the cancer cells have spread from the place where they first started to another part of the body. ‘Bone metastasis’ happens when the cancer cells from your main cancer travel through the blood stream and start growing in your bones.

Bones are always being formed and broken down to keep them healthy and strong. Cancer cells can affect that normal balance between bones forming and breaking down. This damages the normal strength and function of the bone.

**There are two types of bone metastases:**

**Osteolytic (holes).** Cancer cells break down too much of the bone, making it very weak. The bone becomes very soft. This type is more common.

**Osteoblastic (dense bone).** Cancer cells invade the bone and cause too many bone cells to form. The bone becomes very brittle. This type is less common.

A mix of these two types can show up in the same part of the bone.

Cancer that spreads to the bones can damage the skeleton. It may lead to holes that weaken the bones and may cause a broken bone (also called a ‘fracture’).

**What is the most common sign of bone metastases?**

The most common sign is pain. This pain can get worse when you move around or it can be constant, even at rest or at night. The pain might not go away when you take over-the-counter pain medication such as Tylenol or Advil.

**What are some of the serious complications of bone metastases that you should look for?**

Please call your nurse or tell your oncologist (cancer doctor) right away if you have any of these signs:
A. Bone breaks (fractures)

Cancer that has spread to the bone may make bones weaker. This makes your bones at risk of breaking. Breaks may happen without warning and can be hard to prevent.

**Signs of bones at high risk of breaking (also called ‘impending fractures’):**

- more and more pain in your hip, thigh or leg
- pain gets worse when you stand or walk

**Signs of breaks:**

- sharp, sudden pain in one area
- pain that quickly becomes severe
- pain that gets worse when you move or put weight on that part
- swelling, warmth, bruising
- hard to walk, stand or move that part of your body

Bones that support the body are the thigh bone (called the ‘femur’) and the lower leg bone (called the ‘tibia’). These support bones, plus bones with larger-sized metastases, are more likely to break.

If you have severe pain in your hip, thigh or leg when you move, please call your doctor or nurse to have an x-ray. You may need to go the nearest emergency department for x-rays. X-rays will show if you have a broken bone.

B. High calcium levels in the blood (called hypercalcemia)

When bone metastases weaken and destroy the bone, calcium is released into your blood. When the calcium level in your blood is higher than normal, it’s called hypercalcemia.

**Signs of hypercalcemia:**

- don’t feel like eating
- feel sick to your stomach
- feel thirsty
- are constipated (dry, hard bowel movement)
- feel confused
- feel very tired
- muscles feel weak
- need to urinate (pee) more often
- have more bone pain

One of the treatments is to make sure you have enough fluid in your body. You may need to receive fluids through an intravenous (needle) in your arm.
C. Spinal cord compression (squeezing)
If the cancer spreads to a bone in the spine, the cancer can press against and squeeze (compress) the spinal cord or nerve roots.

Spinal cord compression is a medical emergency. Please go to the nearest emergency department if you have the following signs:
• weakness, heaviness or stiffness in legs or arms
• numbness or tingling in legs or arms, hands or feet
• can’t hold in urine (pee) or bowel movements, or can’t pass urine or bowel movements.
• numbness in pubic and anal area
• fast rise in back pain or leg pain that keeps getting worse

How are bone metastases diagnosed?
These tests may be used to see if you have bone metastases. The tests can also help your health-care team plan your treatment and see how you respond to treatment for bone metastases.

A. Health history and physical exam
Your health-care team will ask you about your symptoms, medical history to see if bone metastases are likely. You will have a physical exam to look for signs of bone metastases. During the exam, the health-care team will assess the parts where you have pain or other symptoms.

B. X-rays
An x-ray is the key test used to inspect the part where you have pain. An x-ray can show bone breaks and can detect parts of the bone that are weak and at risk of breaking. X-rays can also show the size of the metastases (called a ‘lesion’) in the bone.

C. Bone scan
A bone scan is a nuclear medicine test that screens your entire skeleton for bone metastases. This test helps find spots that have cancer but have not yet caused pain. A bone scan can often find bone metastases sooner than an x-ray.

During this test, you will receive an injection with a very small amount of ‘bone-seeking radioactive tracer.’ The tracer is a very low dose and is very safe, with no long-term side effects. After receiving the tracer, you must wait 2 to 3 hours while it attaches to your bones. While you wait, you are free to eat and drink and may leave the Nuclear Medicine department.
After your wait, a trained technologist will ask you to lie on an imaging table. A scanning machine will take pictures of your entire skeleton, since your bones will now be slightly radioactive. Parts of the bone (such as bone growth, breakdown or healing) will take up more of the tracer and make that spot brighter on the images. These bright spots may be bone metastases. It will take 30 to 45 minutes for the technologist to complete all the images of your bones.

**D. CT scan**

CT stands for ‘computerized tomography.’ CT scans use stronger x-rays to measure the size of the lesion and pinpoint where a break might be. During some CT scans, you may need an injection or a special drink of contrast material to allow a closer look at the organs or blood vessels.

Your doctor will use a CT scan if the x-rays and bone scans are normal but there are still concerns about bone metastases. CT scans are often used to study metastases to the spine as well as other organs, such as lungs, kidneys and abdomen. A specially trained doctor, called a radiologist, may also use a CT scan to help find the exact spot of a tumour during a biopsy to get tissue samples.

During the CT scan, a technologist will ask you to lie down on a narrow table. Straps and pillows may be used to help you stay very still. The table will then slowly slide into the CT scanner. An x-ray tube will move around in the scanner, to create detailed pictures of your body. The technologist may ask you to hold your breath to ensure a clear image. You may hear clicking or whirring noises during the scan. A CT scan takes 15 to 20 minutes.

**E. MRI (Magnetic Resonance Imaging)**

MRI uses magnets and radio waves to create a 3D image of the body. MRIs do not use radiation. They are often used to check for spinal cord compression (squeezing). MRIs may be used if the results of a CT scan are not clear. MRIs can also be used to check if the cancer has spread to the bone marrow. You may need to receive an injection of contrast material for some types of MRIs. Since MRIs use very powerful magnets, it is vital to tell your doctor if you have any implants in your body, like metal rods, hip or knee replacements, or a pacemaker. This will help your doctor know if an MRI is safe for you.

For the MRI, you will lie on a table that is then placed inside the opening of the MRI scanner. Small devices that contain coils may be placed around or near your body part that is being studied. The technologist will watch you closely and speak to you all during the scan. You can speak to the technologist at any time. You must stay as still as you can during the scan. Straps and holders may help you stay still. When the MRI starts to work, there will be a lot of noise and some knocking sounds. These sounds happen when the image is being taken. Tell your doctor if you are claustrophobic (fear of being in a small space) or you have trouble lying still for a long time. An MRI takes 30 to 60 minutes.
F. Blood test
A blood test may help the doctor find out if you have bone metastases. For example, a blood test can measure calcium and alkaline phosphatase levels in the blood. High levels may mean there is damage to the bone from bone metastases.

G. Biopsy
A biopsy means taking a sample of cells or tissues from the part of the body concerned. The sample is sent to a pathologist, a special type of doctor who looks at the tumour cells under a microscope and performs different tests to figure out where the cells came from.

A biopsy is sometimes needed to find out if you have bone metastases. If you have had cancer before, doctors most often use imaging tests to see if you have bone metastases. But, a biopsy is needed if the first cancer is not known or cannot be found outside the bone. The results will guide the type of treatment that will be recommended.

Goal of Treatment

What are the goals of treatment when cancer has spread to the bones?
Cancer treatment may be given for a number of reasons. It is key to note that sometimes the goal of treatment can change over time.

• **Control the spread:** Treatment is given to shrink the cancer and stop the cancer from growing and spreading further. The treatment may put the cancer in control (on hold).

• **Palliative:** Treatment is given to:
  • reduce or treat symptoms, such as bleeding, pain or nerve compression
  • improve a person’s mobility, comfort and quality of life

If you have questions or aren’t sure about the goals for your treatment, please talk to your health-care team

Survival
Learning you have bone metastases or advanced cancer can lead to questions about survival. There is no way to know exactly how long someone will live with bone metastases. It depends on many factors, including the type of cancer.

Your oncologists are the best people to talk to about survival. They may be able to predict how long you will live based on what they know about your medical history and current status. Don’t forget that predicting survival is not an exact science – it is simply the oncologists’ best estimate.
Advanced Care Plan

Making an Advanced Care Plan means talking with your family and friends about your care wishes for the future. It includes talking with your family doctor and the cancer care team to make sure you have the correct medical information about your cancer, your treatment options and your prognosis (how well you will do).

There are many resources to help you talk to the people who are close to you. Ask your team for resources about Advanced Care Planning.

Treatment and Symptom Management

What types of cancer treatment could I receive if I have bone metastases?

You may receive a combination of treatments. Some treatments treat the local cancer in the bone. Other treatments treat the original cancer.

A. Local therapy (radiation, surgery, cement injection)

These treatments are used to control the local cancer at a certain site in the bone. The main goals of these treatments are to control the pain and to prevent or treat a bone break. These treatments can also reduce a spinal cord compression (squeezing). These treatments do not cure the cancer; instead, they help improve your pain and function.

1. Radiation

With radiation, high-energy x-rays are aimed at the spot where the cancer is, to kill as many cancer cells as possible. This is the most common way to give radiation for bone metastases. Since the radiation comes from outside the body, this is called “external beam radiation.”

On the down side, radiation can also damage some normal cells, which causes side effects. Side effects depend on many factors, such as what part of the body is treated and the size of the area treated.

Palliative radiation can help relieve symptoms such as pain or help prevent a bone break.

How many treatments will I need?

When radiation is delivered for a palliative goal, it can be given in:

- 1 or 2 large doses. Fewer appointments are needed.
- 5 to 10 smaller daily doses. The total dose is larger.
Both options give the same pain relief. The number of treatments and total dose is decided with the radiation oncologist during a visit before treatment starts.

Radiation treatment will reduce some symptoms but not totally. Pain relief does not happen right away. It may take 2 to 4 weeks after the treatment has finished before you feel the full benefits. About 70% of patients who have radiation report better pain relief, 20% report complete pain relief and 10% report no change.

**What is stereotactic body radiation therapy (SBRT)?**

- SBRT is a type of external beam radiation that gives very high doses of radiation to very small areas of the body over one or a few days.

- This treatment is offered based on factors such as tumour size, how close the tumour is to sensitive organs, a small amount of cancer in other body parts and whether the patient can stay still for up to an hour at a time.

Your radiation oncologist will talk about this if it is an option for you.

**Possible side effects of radiation:**

Radiation side effects happen in the part of the body that receives the radiation. The most common side effects are:

**Pain flare:** There is a 30% chance of a short-term increase in pain (for 24 to 48 hours) after radiation is given to the bone. For some, the pain flare can start up to 5 days after radiation and last for 3 to 5 days.

**Skin reaction:** This is a common side effect, but does not always happen. There is short-term skin redness, depending on the dose and the part of the body that received radiation. It can last up to 2 weeks after radiation has finished.

**Tiredness:** You may already feel tired due to the cancer and treatments you had before. Radiation may add to this feeling of mental and physical tiredness.

**Can you have radiation treatment again in the same part of the body?**

Yes, radiation can be given to a part that has been treated before, depending on the dose you received in the past. The radiation oncologist will tell you if a repeat treatment would be safe.
2. Surgery
Many types of surgery can treat or prevent a bone break. Open surgery may involve inserting plates and screws, placing a rod in the bone, or a joint replacement. The surgeon may also remove part of the cancer and fill the space with medical cement. Your surgeon will talk with you about the type of surgery you may need.

The goals of surgery are to reduce pain and improve how well you move. Most surgeries for metastases do not cure the cancer. Ask your surgeon for more details about the type of surgery you will have.

Complications
Complications can happen with any surgery. The most common are:

**Blood clots:** The risk of forming blood clots increases because you aren’t moving around much when you have surgery. Blood clots most often form in your arms and legs but can travel to the lungs. You may be put on a blood thinner after surgery to decrease this risk. Watch for pain, redness, tightness and increased swelling in your arms and legs; chest tightness or pain; and increased shortness of breath.

**Infection:** Cutting the skin can allow bacteria to get into your body. Even though surgeries are done in a sterile place, there is still a chance of infection. This risk increases if you’ve had radiation in that part of the body before surgery. To prevent infection, we apply bandages over the surgery incision, give antibiotics before and after surgery, and watch the incision closely.
**Blood loss:** The amount of blood lost during surgery is watched closely. If you are at higher risk for bleeding, your blood levels may be measured before surgery. Your surgeon will talk to you about your wishes regarding blood transfusion before surgery.

**Pain:** Surgeries are done to reduce pain but you will still feel “surgical pains” after the surgery. Pain should improve slowly after surgery. You will receive medicine to help reduce the pain. The goal of the medicine is to help you control the pain, not to remove all the pain.

**Stiffness:** Some surgeries, especially those close to or involving a joint, can cause stiffness after the surgery. This stiffness can become worse if you have to wear a cast. You may need physiotherapy to improve your movement.

**Rehabilitation after surgery**
Many people need some form of rehabilitation (also called ‘rehab’) after a surgery. The timing and degree of rehab depend on the type of surgery, how well you moved before the surgery, and how you are moving after the surgery. Rehab can include exercises at home, seeing a physiotherapist, or even being sent to a rehab centre. The amount of time it takes to get back to your normal level of movement varies.

**3. Cement injection (also called cementoplasty)**
Medical cement is injected into the bone during a CT scan. This can be done for any bone but is often used for the pelvis and the spine. The goal is to relieve the pain from weak or broken bones and to give the bone strength. This can improve how well you move, decrease pain and prevent other bone breaks.

Cementoplasty is called other names when it is done on certain bones. Vertebroplasty is when cement is injected in the vertebrae of the spine. Acetabuloplasty is when cement is injected in the acetabulum of the pelvis.

![x-ray of bone metastasis](image1.png)

![x-ray of bone metastasis repaired with medical cement](image2.png)
Cementoplasty is done using minimally invasive surgery (MIS) – rather than open surgery. MIS can help relieve your pain from lesions that are hard to operate on. MIS does not cure cancer but can improve pain and how well you move. MIS may be an option for patients on systemic therapy.

**B. Systemic therapy**

Systemic therapy includes chemotherapy, hormonal therapy, targeted medications, and immunotherapy. It’s the only treatment that may help to control the cancer from spreading to other parts of the body. The medical oncologist is the best person to provide you with details about how likely it is that systemic therapy can control your cancer. Systemic therapy may not be an option.

1. **Chemotherapy (also called ‘chemo’)**

Chemotherapy is used to treat many types of cancer. The type of chemotherapy drug or combination of medication depends on where the cancer started (called the primary cancer site). The drug, the dose and the schedule will vary depending on type of cancer you have.

Chemotherapy medications move throughout the body and destroy cancer cells. However, the medications also damage some normal cells, which causes side effects. Side effects depend on the type of medications, the amount taken, and the length of treatment. If you will be getting chemotherapy, ask your health-care team about the medications being used and what side effects to expect.

2. **Hormonal therapy**

Certain hormones in the body make some cancers grow. For example, the hormone estrogen makes some types of breast cancer grow. The hormone testosterone makes most prostate cancers grow.

Hormonal therapy is a treatment that blocks or removes certain hormones to slow or stop the growth of cancer cells. Hormonal therapy may be given for some types of cancer that have spread to the bone, such as breast and prostate cancers. The side effects of this treatment depend on the hormone.

3. **Targeted therapy**

This treatment uses medication to target certain molecules (for example, proteins) on or inside cancer cells. Different types of medication are used, depending on which molecule is targeted, and each medication works differently. The treatment is chosen based on the types of molecules made by a person’s tumour. Targeted therapy attacks cancer cells, with less damage to healthy cells, so there are usually fewer and milder side effects than with chemotherapy.
4. Immunotherapy
The body’s immune system (which fights off germs) can find and destroy cancer cells, but cancer cells can sometimes hide and avoid being destroyed. Immunotherapy helps boost your immune system, so it can fight cancer.

C. Therapeutic Radiopharmaceuticals
There is a group of medication called radiopharmaceuticals. These medications are radioactive. They are injected into a vein in your arm, travel through your blood and attach to your bones. These medication search for cancer in your bones and kill the cancer cells.

If cancer has spread to many bones, these medications may work better than using external beam radiation. In some cases, these medications may be used with external beam radiation. These medication work best on osteoblastic metastases from prostate cancer. (See “Osteoblastic” on page x.)

Two of these medication used are:
• Strontium-89 (brand name Metastron)
• Radium-223 (brand name Xofigo)

Treatment with one of these medication can often reduce pain from bone metastases for a few months. Treatment can be repeated when the pain returns, but the pain might not be reduced for as long as it was with the first treatment.

The major side effect of this treatment is lower blood cell counts (mainly white cells and platelets), which could put you at higher risk for infections or bleeding. Another side effect is what’s called “Bone Flare,” in which the pain gets worse for a short time before it gets better.

D. Medication to make your bones stronger

1. Bisphosphonate medication
These medication help slow the breakdown of bone. They are a standard treatment for bone metastases. They help manage and prevent complications from bone metastases. When doctors decide to use these medication depends on many factors, such as where the cancer started, the number of bones affected by cancer and the chance of developing bone problems.

The most common bisphosphonate medication used for bone metastases are:
• pamidronate (brand name Aredia, given by needle)
• zoledronic acid (brand name Zometa, given by needle)

Bisphosphonates are most often given through a needle into a vein. These medications are often given either once every month or once every 3 months. You should be told to take calcium and vitamin D tablets while you are on bisphosphonates.
What are the side effects of bisphosphonates?
The side effects are most often very mild. Side effects depend on:
• which drug you take
• the dose
• the length of treatment

The side effects of bisphosphonates given by needle include:
• Flu-like symptoms
  • Fever, chills, muscle and joint aches or pain, headache
  • Rare, short-lived, more likely 24 to 48 hours after taking the drug
• Change in kidney function
  • Rare, often mild, no symptoms.
  • Blood tests ordered to check kidney function
• Low calcium levels in the blood
  • Rare, short-lived
  • Blood tests ordered to check calcium levels
• Bone death in the jaw (called osteonecrosis)
  • Rare but serious
  • Caused by poor blood supply to the jaw. Can happen to people who:
    • Have poor oral hygiene
    • Smoke
    • Have dental work done after bisphosphonates given by needle.
  • Patients should see a dentist before starting treatment with these medications.

2. Denosumab (brand name Xgeva)
This drug may be used instead of a bisphosphonate to slow down or stop bone loss. It is
given by a needle inserted under the skin. It is most often given every 4 weeks or every
12 weeks. You should be told to take calcium and vitamin D tablets while taking this drug.

• The side effects:
  • low levels of calcium in the blood
  • tiredness
  • nausea and vomiting
  • constipation or diarrhea
  • muscle or joint pain.
Living with bone metastases

You may have concerns about how bone metastases will affect your quality of life each day. Living with metastatic cancer is challenging. It’s not the same for everyone.

The symptoms and side effects of the disease and treatment may cause physical changes, but may also affect the way you feel and how you live. You may feel: overwhelmed, fearful, uncertain about your future and that of your family, or, lost in a complex medical system.

There are supports to help you deal with these feelings. Reaching out for that support is key. Good communications between the patient and family, and the treatment team, and sets up a partnership. Patients have shared that it helps to talk with their treatment team about their feelings, have those feelings confirmed as real and valid, and find out what they can control.

A. Ways to cope with your feelings:
   • Know that your feelings and concerns are normal.
   • Learn more about your cancer, ask questions and ask support for yourself.
   • Express your feelings. Talk with family and friends about your cancer and tell them what you need from them.
   • Discuss your feelings with your treatment team.
   • Reach out to formal support programs, to help make changes in your lifestyle.
   • Remain as active as you can and find things to do that you enjoy.
   • Connect with other cancer survivors and other supports in your community.

Speak to your health care provider, a social worker or psychologist about how you are feeling. The team can support your feelings, offer short-term counselling and give practical help to you and your loved ones throughout your cancer journey. You can find online resources on The Ottawa Hospital’s website, www.ottawahospital.on.ca/cancer. Click on the “Patient Learning Links.”

B. How to manage pain and symptoms

Patients with bone metastases often have symptoms such as pain, coping issues and issues with moving around. It is vital to tell your health-care team about your symptoms so they can help you manage them. Don’t forget to fill out your symptom screening on the computers in the waiting rooms.

Pain

Bone metastases can cause pain that may become worse when you move around. Sometimes this is called “incident” pain. People with bone pain often describe it as a dull aching pain at rest and a sharp pain when they move.
Radiation and surgery can help control pain. Medications can also help to control pain, and may be reduced after radiation and surgery have worked.

To help your health-care team understand your pain, it is important to keep a pain diary. You will find a sample pain diary in the booklet "How to manage your pain," which also contains other helpful information about pain. Ask your nurse or doctor for a copy of this booklet.

1. Tylenol and Anti-inflammatories
Tylenol can help to reduce the pain from bone metastases. Anti-inflammatories Ibuprofen (such as Advil or Motrin) reduce the swelling (also called inflammation) around tumour cells in the bone. These medications are often used as the first step in pain management. Taking Tylenol and an anti-inflammatory medication together can give better pain relief with fewer side effects. They may or may not be continued with other pain medications.

2. Corticosteroids
Corticosteroids (such as Dexamethasone) has a stronger anti-inflammatory effect and may be prescribed instead of anti-inflammatories. It may be prescribed along with opioids.

3. Opioids
Opioids are medication also called narcotics (such as morphine, hydromorphone and oxycodone) which control pain. Your doctor may prescribe long-acting and short-acting opioids. Long-acting opioids release the drug slowly into your body and work for 8 to 12 hours.

Short-acting opioids release the medication quickly into your body. They start working in less than 60 minutes and keep working for 2 to 4 hours for “breakthrough” pain. Breakthrough pain is the pain you may feel in between doses of long-acting opioids.

It is safe to take long-acting and short-acting opioids at the same time, as prescribed by your doctor. It is important to take your regularly scheduled opioids as prescribed to control your pain.

- **What are the most common side effects of opioids?**
  Constipation is the most common side effect of opioid medication. Constipation means your bowel movements are not as frequent and can be too small, too hard or too difficult to pass on a regular basis compared to what is normal for you. Most patients taking opioids should also take a regular laxative, which will stimulate bowel movements while on opioids.

  Other common side effects include feeling sleepy and feeling sick to your stomach. These side effects often last only a few days after the opioids are started or when the dose is increased.
4. Medications for nerve pain

Many nerves in the body travel near and through bones. When cancer is in the bone, patients may have pain from irritation or damage to these nerves. This type of pain is often described as “stabbing,” “burning” or “radiating.” Medications that target nerve pain may be added to the opioids you are taking. Examples include Pregabalin (Lyrica), Gabapentin, Amitriptyline and Nortriptyline. The main side effect of these medications is drowsiness. This will eventually wear off.

5. Other ways to manage pain include:

• Getting support.
• Using heat, ice or a TENS (transcutaneous electronic nerve stimulation) machine. Ask your health-care team what may or may not be right for you.
• Breathing exercises, distraction or meditation to help you relax.
• Exercise. See the mobility and safety section below. Ask your health-care team what movements you should avoid.
• Positioning. Explore positions that feel most comfortable for you.

C. How can I learn more about my symptoms?

Pick up one of the many booklets in the Cancer Centre about the symptoms you are having. Ask your nurse about these booklets or drop by the Patient and Family Resource Centre to pick them up.

Visit The Ottawa Hospital’s online resources. Go to www.ottawahospital.on.ca/cancer and click on Patient Learning Links. Then click on the “Living with cancer” section to find out more about symptoms and other aspects of cancer.

D. Movement and safety

All along your cancer journey, it is key to be physically active every day so you maintain and improve how well you move around. This will help you keep doing things on your own and have a good quality of life. Being active may also help to prevent broken bones and further bone trauma. Please talk with your health-care team about your risk of breaks, how much movement is right for you and which type of activity is best for you.
**How to prevent falls:**
Here are some tips to help you prevent falls and broken bones at home:

- Remove throw rugs.
- Keep hallways clear of clutter.
- Wear non-slip footwear.
- Avoid walking on floors that are not even.
- Use a cane or walker for support.
- Use railings on stairs.
- Roll over gently in bed.
- Be careful when getting into and out of a car.

Some patients need help to stay active but also protect against falls and breaks. Walkers, crutches, canes or braces can help.

![Examples of aids](https://via.placeholder.com/150)

A physiotherapist can help figure out which aids will help you stay stable and safe when you move, and can also adapt the aids to suit you. The physiotherapist can also help strengthen the muscles around the bone where the metastases is and help recover after treatment for bone breaks.

Occupational therapists help patients do the daily tasks they want to, or need to, do by making changes to help them, such as teaching them to use special equipment or wheelchairs. You can connect with an occupational therapist through the Champlain LHIN Home and Community Care.
What does this mean?

**Biopsy:** Take a sample of cells or tissues from the part of the body concerned. The sample is sent to a lab where a pathologist studies the sample.

**Blood transfusion:** To transfer blood into a person using a needle in the arm.

**Diagnose:** To figure out what your illness is.

**Immune system:** Parts of the body that fight off germs and illness.

**Joint replacement:** Surgery where a damaged body joint, such as a hip or knee, is removed and replaced with a new one made of metal, plastic or ceramic.

**Medical cement:** Substance made of plastic (acrylic) that is used to fill empty spaces in the bone.

**Metastasis:** When the cancer cells have spread from the place where they first formed to another part of the body. Bone metastasis happens when the cancer cells from your main cancer travel through the blood stream and start growing in your bones. ‘Metastases’ is the plural of ‘metastasis.’

**Oncologist:** Doctor who is an expert in cancer.

**Pathologist:** Doctor who looks at cells and tumours under a microscope and does tests to figure out what the illness is and how it could be treated.

**Prognosis:** How well you will do, given what your illness is.

**Radiation oncologist:** Cancer doctor who is an expert in treating cancer with radiation.

**Rehabilitation:** Using training or treatment to bring someone back to their normal (or new normal) health or life.

**Surgery:** Also called operation. Treating an illness or injury by opening the body to remove or fix the damaged part. There are two types:

- **Open:** cutting open the body
- **Minimally invasive:** making only very tiny cuts and using thin needles and tiny cameras on scopes to guide the surgeon.
For more information:

• Patient Learning Links: www.ottawahospital.on.ca/cancer

• Canadian Cancer Society: www.cancer.ca then search for “bone metastases”

• Psychosocial Oncology Program
  • Cancer Centre at the General Campus site: 613-737-7700 ext. 70516
  • Irving Greenberg Family Cancer Centre at the Queensway Carleton site: 613-737-7700 ext. 25200

• Home and Community Care, Champlain LHIN http://healthcareathome.ca/champlain/en

• Cancer Survivorship Centre, Ottawa Regional Cancer Foundation: www.ottawacancer.ca

• Ottawa Integrative Cancer Centre: www.oicc.ca
Questions you may have for your health-care team

Where do I have bone metastases?
What is my risk of bone break?

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What treatments are being planned?

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I am being cared for by many cancer doctors (e.g. medical oncologist, radiation oncologist, surgeon). Which doctor is in charge of my overall plan of care now that I have bone metastasis?

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