



# **BONES** IN FOCUS

A guide to bone health for patients with bone metastases from solid tumors.

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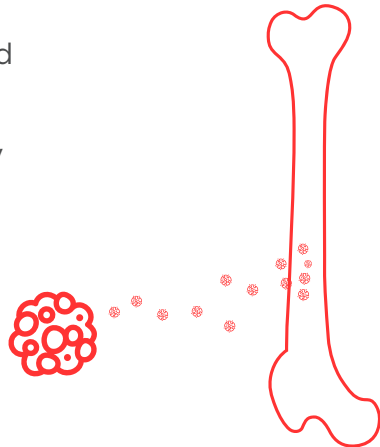
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# WHAT ARE BONE METASTASES?

Bone metastases happen when cancer cells break away from the original tumor and spread to the bones.<sup>1</sup>

When cancer cells settle into the bone(s), they begin to grow and can form new tumors.<sup>1</sup>

Bone metastases are cancerous cells that have spread to the bones from the original tumor<sup>1</sup>

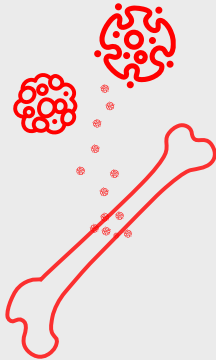


# WHY SHOULD I BE CONCERNED ABOUT BONE METASTASES?

Bone is one of the most common places for cancer to spread.<sup>1</sup> Bone metastases are common with advanced breast, prostate, and lung cancers.<sup>2</sup>

Bone metastases are different from bone cancer. Bone cancers start in the bone; bone metastases spread from a tumor in another organ to the bone.<sup>1</sup>

# ARE BONE METASTASES DANGEROUS?



The body constantly remakes bones to keep them strong. In a person with bone metastases, the cells that break down bone may become overactive.<sup>1</sup>

This weakens the bone and can lead to serious bone problems.<sup>1\*</sup>

\*Serious bone problems are defined as broken bones (fractures), the need for surgery to prevent or repair broken bones, the need for radiation treatments to the bone, and pressure on the spinal cord (spinal cord compression).<sup>3</sup>

# BONE METASTASES MAY LEAD TO BONE BREAKDOWN AND SERIOUS BONE PROBLEMS

Serious bone problems are<sup>3</sup>



Broken bones (fractures)



The need for radiation treatments to the bone



The need for surgery to prevent or repair broken bones



Pressure on the spinal cord (spinal cord compression)

Bone metastases can increase your risk for serious bone problems<sup>1</sup>

# BROKEN BONES (FRACTURES)



Bones weakened by metastases may break. **Fractures may be painful and can take a long time to heal.**<sup>1</sup>

In patients with metastases, broken bones occur most commonly in the<sup>1</sup>

- Ribs
- Spine
- Pelvis
- Thigh bone (femur)

# SURGERY TO THE BONE



Surgery may be needed to fix a broken bone or help prevent a bone from breaking.<sup>1</sup>

**Rehabilitation is often necessary after surgery.**<sup>4,5</sup>

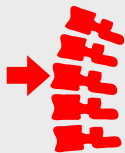
# RADIATION



**Radiation to bone is often used to lessen pain.** It may require multiple trips to the clinic.<sup>1,6</sup>

- A common schedule is 10 to 14 treatments over 2 to 3 weeks<sup>6</sup>
- Side effects may include fatigue, loss of appetite, skin changes, and low blood counts<sup>1</sup>

# SPINAL CORD COMPRESSION



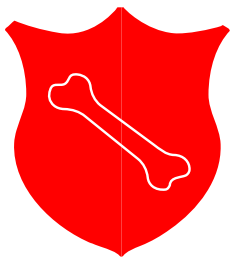
Cancer that has spread to and compresses the spine may lead to symptoms such as<sup>1</sup>

- Numbness
- Bowel or bladder difficulties
- Paralysis

Spinal cord compression must be addressed immediately, as it can lead to serious long-term problems.<sup>1</sup>



# BONE-TARGETING MEDICINES HAVE BEEN PROVEN TO HELP PREVENT SERIOUS BONE PROBLEMS<sup>1</sup>



If cancer cells from a solid tumor has spread to the bones, it is important to prevent serious bone problems\* before they happen.<sup>5</sup>

Bone-targeting medicines help keep bones affected by metastases from getting weaker<sup>1</sup>

\*Serious bone problems are defined as broken bones (fractures), the need for surgery to prevent or repair broken bones, the need for radiation treatments to the bone, and pressure on the spinal cord (spinal cord compression).<sup>3</sup>

# THERE ARE DIFFERENT TYPES OF BONE-TARGETING MEDICINES



One type of bone-targeting medicine is called a **biologic**. It works by blocking a signal that drives the bone-breakdown process.<sup>1</sup>

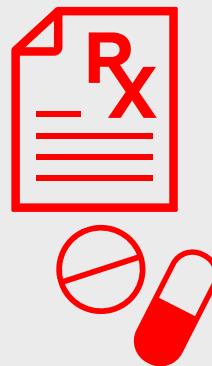


Another type of bone-targeting medicine, known as a **bisphosphonate**, works by interfering with the cells that break down bone in various ways.<sup>1</sup>

# IMPORTANT CONSIDERATIONS WHILE ON TREATMENT

## When receiving treatment with a bone-targeting medicine

- You may be told to take vitamin D and calcium supplements to help prevent low calcium levels in the blood<sup>7</sup>
- Your healthcare team may want you to continue treatment even if you do not have symptoms of serious bone problems, such as pain<sup>8</sup>
- Continuing treatment with a bone-targeting medicine is important because it treats a different problem than your primary cancer treatment<sup>8-10</sup>



# TAKE YOUR BONE-TARGETING MEDICINE AS PRESCRIBED BY YOUR DOCTOR



Receiving treatment every 3 or 4 weeks can help keep your bones strong.<sup>7,8,11</sup>

Sticking to the treatment schedule your doctor prescribes will help give you the best chance of avoiding serious bone problems<sup>7,8,11,\*</sup>

\*Serious bone problems are defined as broken bones (fractures), the need for surgery to prevent or repair broken bones, the need for radiation treatments to the bone, and pressure on the spinal cord (spinal cord compression).<sup>3</sup>

# WHEN AND HOW YOU'LL RECEIVE TREATMENT



## **If prescribed a biologic**

You'll typically receive an injection under the skin once every 4 weeks<sup>7</sup>

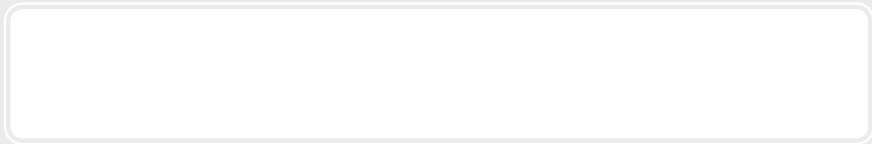
## **If prescribed a bisphosphonate**

You'll typically receive an intravenous (IV) infusion every 3 to 4 weeks<sup>1</sup>

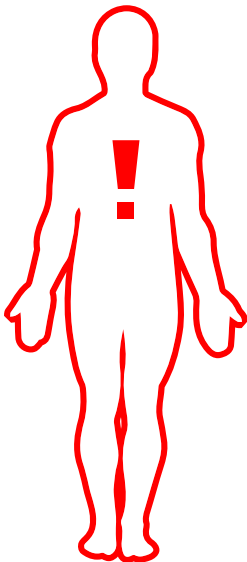
Every 3 to 4 weeks, you'll be given treatment as a shot under the skin or as an IV infusion<sup>1,7</sup>

# STAY CONSISTENT WITH YOUR TREATMENT

- Stick to your treatment schedule
- Try to make your appointments part of your routine
- Record appointments in your calendar
- Ask family or friends for help getting to your oncologist's office



# POSSIBLE SIDE EFFECTS



Some of the most common side effects experienced by patients receiving treatment for the prevention of bone complications include<sup>7</sup>

Tiredness/weakness

Low phosphate levels in the blood

Nausea

Feeling breathless or winded

Talk to your healthcare team  
about potential side effects

# MORE SERIOUS RISKS



**People who receive a bone-targeting medicine sometimes experience<sup>1,7</sup>**

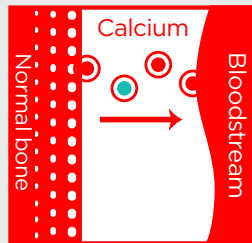
- Low blood calcium (hypocalcemia) that can be life-threatening
- Severe jaw problems (osteonecrosis of the jaw)
- Unusual thigh fractures



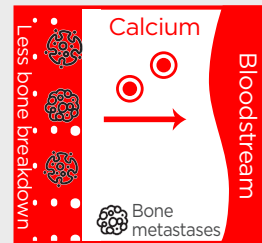
# HYPOCALCEMIA

Hypocalcemia is a condition characterized by abnormally low blood calcium levels, which can be life-threatening.<sup>7,12,13</sup>

- Symptoms of hypocalcemia include muscle stiffness, twitching, spasms, or cramps<sup>7</sup>
- Take calcium and vitamin D as directed by your doctor<sup>1,7</sup>



Calcium is released when there is bone breakdown.<sup>2</sup>



Less calcium is released when there is less bone breakdown, as a result of a bone-targeting medicine.<sup>1,12</sup>

# SERIOUS JAW PROBLEMS



Osteonecrosis (OSS•tee•oh•ne•KRO•sis) of the jaw (ONJ) is a serious side effect that can occur in patients receiving bone-targeting medicines.<sup>1</sup>

## Signs and symptoms of ONJ include

- Soft tissue swelling and redness<sup>14</sup>
- Infection of gums or jaw<sup>7</sup>
- Loose teeth<sup>14</sup>
- Slow healing after dental work<sup>7</sup>

**It is important to practice good dental care if you are prescribed a bone-targeting medicine.<sup>1</sup>**

- In addition to having your mouth checked by your doctor, schedule an exam with your dentist prior to starting and throughout treatment

# TALK TO YOUR DOCTOR AND DENTIST



## Tell your doctor if you<sup>14,15</sup>

- Plan to have dental surgery or teeth removed
- Have symptoms of severe jaw bone problems such as pain or numbness

Tell your dentist at every visit that you are taking a bone-targeting medicine.

**It is important to always talk to your doctor about any health-related changes or concerns.**

# UNUSUAL THIGH FRACTURES



- An unusual thigh fracture is a break in the thigh bone that occurs with little or no injury to the affected area<sup>7</sup>
- This type of fracture is called “unusual” because the thigh bone is the strongest in the body and normally takes a lot of force to break<sup>16</sup>
- Pain is usually an indicator of a developing fracture, occurring weeks to months before a complete fracture occurs<sup>7</sup>

# TAKE AN ACTIVE ROLE IN YOUR TREATMENT

It's important that you have honest and open talks with your healthcare team, so that all of your questions are answered.

## Here are some suggested questions<sup>1</sup>

- What are the first signs and symptoms of serious bone problems?
- Why am I at risk for serious bone problems such as a fracture?
- What would we do if I did develop one of the serious bone problems discussed in this brochure?
- Which treatments do you recommend and why?
- What are the potential risks or side effects of using a bone-targeting medicine?
- What are the potential benefits of using a bone-targeting medicine?



**References:** 1. American Cancer Society. Bone metastasis. American Cancer Society Web site. <https://www.cancer.org/treatment/understanding-your-diagnosis/bone-metastasis/what-is-bone-mets.html>. Revised May 2, 2016. Accessed February 13, 2017.

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# TAKING YOUR BONE-TARGETING MEDICINE CAN HELP PREVENT SERIOUS BONE PROBLEMS<sup>1\*</sup>



Bone metastases may lead to bone breakdown and serious bone problems.<sup>1</sup>



Receiving treatment with your bone-targeting medicine every 3 or 4 weeks as prescribed can help keep your bones strong.<sup>7,8,11</sup>



Bone-targeting medicines can help prevent serious bone problems in people with bone metastases.<sup>1</sup>



Talk to your doctor about the importance of sticking to your recommended treatment schedule.<sup>8,11</sup>

\*Serious bone problems are defined as broken bones (fractures), the need for surgery to prevent or repair broken bones, the need for radiation treatments to the bone, and pressure on the spinal cord (spinal cord compression).<sup>2</sup>

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