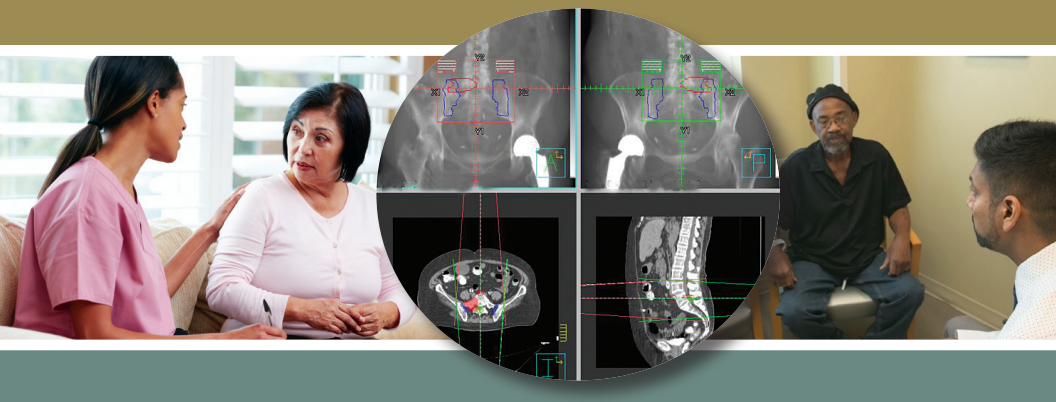
Radiation Therapy for **Metastases to the Bone**



Cancer that starts in one part of the body can sometimes spread to other areas of the body. If a tumor spreads to the bone, this new site of cancer is called a bone metastasis.

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WHAT ARE BONE METASTASES?

When bone metastases occur, they are not a new "bone cancer". Bone metastases are the spread of the original cancer to the bone. For example, instead of having both bone cancer and breast cancer, a person usually has breast cancer that has spread to the bone. Almost every cancer has the ability to spread to the bone, but cancers that commonly spread to the bone include breast, kidney, lung, prostate and thyroid cancers.

Cancer treatments have improved recently, allowing many patients to live longer than before. Unfortunately, cancer spreading to the bone may still occur months to years, after an original cancer diagnosis.

SYMPTOMS AND SIGNS OF BONE METASTASES

Pain is the most common symptom of bone metastases. Bone metastases can weaken bones, putting them at risk for breaking. In some cases, a break in the bone is the first sign of bone disease spreading. Arm, leg and spine bones are the most common ones to break.

Sometimes when cancer spreads to the spine, it can push on the spinal cord causing a spinal cord compression. Compression signs include back pain, numbness or weakness in your arms or legs or losing control of your bladder and/or bowel. If any of these symptoms develop, you should call your cancer doctors and seek emergency care right away.

Bone metastases may cause calcium to be released from the bones into the bloodstream. The increased calcium can cause loss of appetite, nausea, thirst, constipation, tiredness or confusion. If you notice these symptoms, you should talk to your doctor right away. Sometimes, you may notice no signs that the cancer has spread to the bone. When you come in for a routine visit, disease spreading to the bone can be found on physical exam or on imaging scans.

GENERAL TREATMENT FOR BONE METASTASES

The goals of treatment for bone metastases are to control pain, improve quality of life and limit other symptoms from occurring.

- Your doctors may also prescribe chemotherapy, immunotherapy or endocrine therapy. These terms refer to different medications that kill cancer cells or stop them from growing. These treatments are taken by mouth or through a vein. These types of treatment may be given when you are first diagnosed with cancer or when cancer spreads to other parts of the body. Talk with your medical oncologist about these types of treatments.
- Focal radiation therapy can be targeted at one to a few bone metastases. It could also be given to any area that has been treated in the past, using a technique called stereotactic body radiation therapy (SBRT).

In most cases, treatment for bone metastases will not "cure" your cancer. However, modern treatments allow doctors to control the spread of disease, which may improve your quality of life and sometimes allow you to live longer.

USING RADIATION THERAPY FOR BONE METASTASES

- Radiation therapy uses high-energy X-rays to kill cancer cells. This type of treatment is given by a radiation oncologist and their team.
- Radiation therapy is commonly used to treat cancer that has spread to the bone. It is very effective at reducing symptoms caused by cancer that has spread to a bone.
- Radiation therapy takes time to work. You may experience relief from your symptoms during treatment. Usually, however, it takes several days to weeks after treatment to feel the greatest relief.
- Radiation therapy is usually given from outside the body to a specific area where cancer is causing symptoms.
- Sometimes your doctor will inject a radioactive substance into your bloodstream. This is called a radiopharmaceutical. It works by attacking cancer cells in all bones by moving in the bloodstream.

THE ROLE OF SURGERY OR INTERVENTIONAL PROCEDURES FOR BONE METASTASES

In the case of a tumor that has broken outside of a spine bone, your doctor may recommend surgery to remove as much of the tumor as possible before beginning radiation. This is typically performed by a surgeon who specializes in spine or bone surgery.

- If surgery is performed, radiation typically starts several weeks after surgery to allow your body to heal.

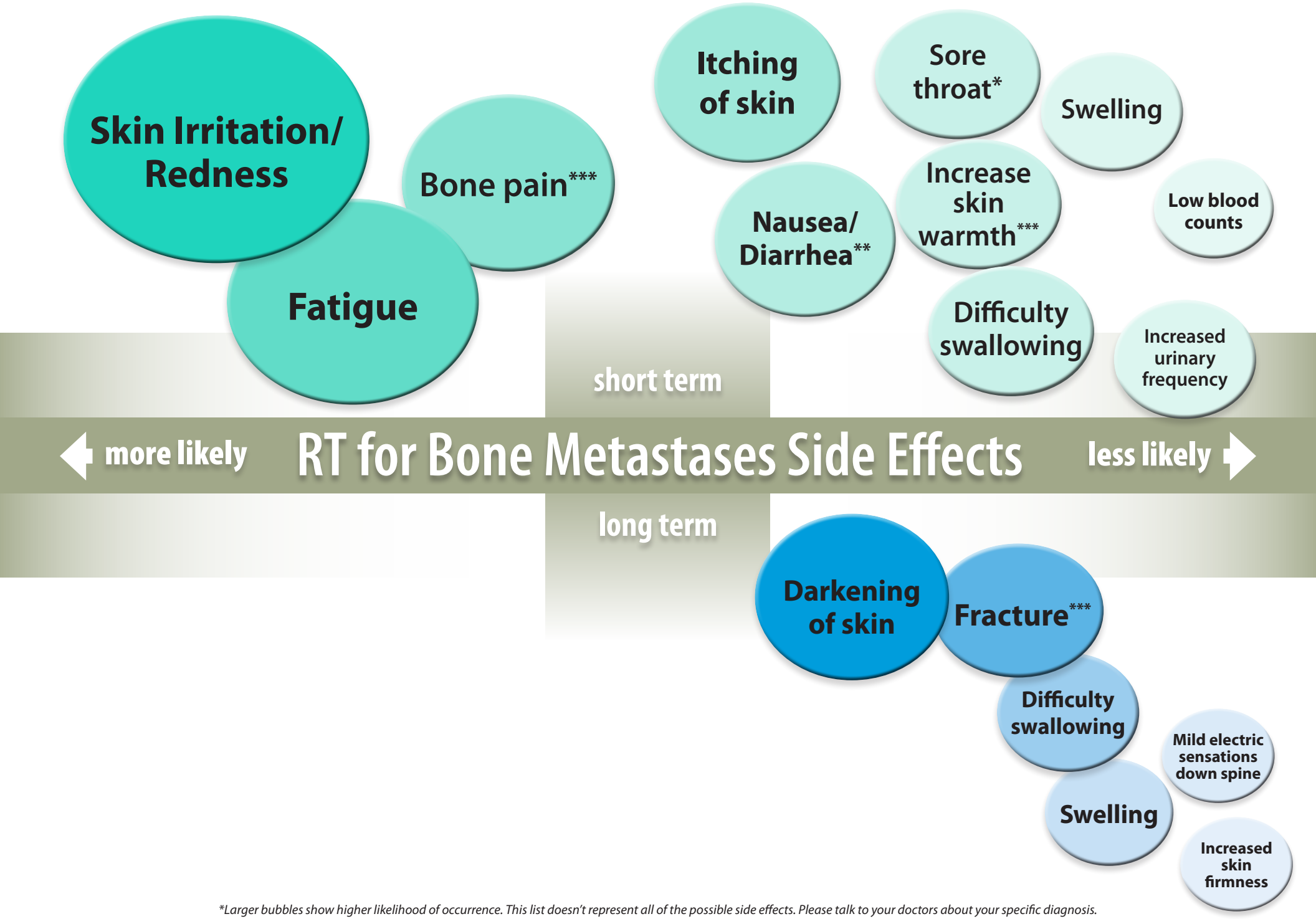
- For tumors that have not broken outside of the spine bone or that have caused collapse of the vertebral body (sometimes called a compression fracture), your doctor may recommend seeing a specialist (interventional radiologist or spine surgeon). The specialist can insert a type of bone cement to stabilize the bone, and reduce pain.

CARING FOR YOURSELF DURING TREATMENT

It is important to care for yourself as well as possible during radiation therapy.

- Get plenty of rest during treatment.
- Follow your doctor's orders. Ask questions about your treatment, side effects or anything you are unsure of.
- Tell your radiation oncologist about any medications or vitamins you are taking.
- Eat a balanced, healthy diet. Your doctor or nutritionist may be able to help you change what you eat.
- Take care of your skin. Use sunscreen when in the sun. Avoid hot or cold packs. Do not use lotions or ointments without checking with your doctor or nurse first. Use warm water and mild soap when cleaning the area receiving radiation.

Coping with cancer can be difficult. Be sure to ask friends, family, support groups and your radiation oncology team for help. Ask your doctor about what resources are available to you.



*Larger bubbles show higher likelihood of occurrence. This list doesn't represent all of the possible side effects. Please talk to your doctors about your specific diagnosis.
Depending on area being treated * More common with SBRT

ABOUT THE RADIATION ONCOLOGY TEAM

Radiation oncologists are doctors who specialize in the use of radiation therapy as a treatment for cancer. Other members of the treatment team include radiation therapists, radiation oncology nurses, medical physicists, dosimetrists, social workers and nutritionists. For information on what each does or to find a radiation oncologist near you, visit **www.rtanswers.org**.

ABOUT ASTRO

The American Society for Radiation Oncology is the largest radiation oncology society in the world with more than 10,000 members who specialize in treating cancer with radiation therapies. ASTRO is dedicated to improving patient care through education, clinical practice, advancement of science and advocacy. Visit **www.astro.org** for more information.

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