

Caring for Your Bones When You Have Cancer

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New medications are improving bone health for people with cancer.

Some types of cancer, such as osteosarcoma and chondrosarcoma, start in the bone. Other cancers begin elsewhere in the body and can metastasize (spread) to the bone. The types of cancer most likely to spread to the bone are breast, prostate and lung. When this occurs, the resulting collection of cancer cells is called a bone metastasis.

Cancer that starts in or spreads to the bone can cause bone pain and increase the risk of complications, including weakening of the bone, fractures and high calcium levels in the blood (which can further damage bones).

Some cancer treatments can also affect bones. For example, certain treatments used for breast and prostate cancer may lead to osteoporosis (thinning of the bones).

Diagnostic Tests

When a bone metastasis is suspected, imaging tests are used to determine its presence or absence. The tests used depend on the person's individual situation, and may include:

- X-rays
- Bone scans (bone scintigraphy)
- Computerized tomography (CT)
- Magnetic resonance imaging (MRI)
- Positron emission tomography (PET)

Additionally, doctors use a variety of tools to monitor your bone health as you go through cancer treatment. The following tests can tell you and your doctor what your bone density is, how much risk you might have for bone fractures and whether the condition of your bones is changing either because of your cancer treatment or because of the cancer itself.

DEXA scan. This test measures the density (mass) of the bones. It shows whether your bone density is normal or whether you have osteopenia (mild bone loss) or osteoporosis (significant bone loss) which increases the risk of fractures.

FRAX. Your doctor may use this tool to evaluate your risk of fracture. FRAX takes a number of factors into consideration, including age, gender, height, weight, whether you smoke, past history of fractures and whether you take medication for an existing bone condition, such as osteoporosis. It is often used in conjunction with the DEXA scan.

Blood tests. Your doctor may also check to see if you have high levels of calcium in your blood, a condition called hypercalcemia. This situation can happen when cancer injures the bones, causing calcium to be released from the bone into the blood. Symptoms of high calcium levels may include nausea and vomiting, sleepiness, feeling very thirsty and frequent urination.

Discussing Pain with Your Doctor

Giving your doctor detailed information about the type and severity of the pain you are experiencing will allow them to treat it most effectively. Here are some tips that can help:

- Keep a diary with notes about how your pain affects you. That way, you don't have to rely on memory to give your doctor accurate information.
- Every time you meet with your doctor, discuss whether or not you are experiencing pain. Your pain levels are part of your vital signs (which also include blood pressure and heart rate) and should be assessed.
- Use a scale of 0 (no pain) to 10 (very bad pain) to rate your pain. This is a good way to measure your discomfort and find out how well any medication you are taking is working.
- Tell your doctor whether anything makes the pain worse. For example, does standing, sitting or getting up from a seated position increase your pain?
- Talk about whether anything relieves the pain. For instance, do you feel better if you apply ice or a heated compress to the area, or when you lie down or walk around?
- Let your doctor know how much relief you are getting from pain medications or other methods you use. Does your pain medication provide you with enough relief? Does it wear off before it's time for your next dose? Are you having any unpleasant side effects from using it?

There are a number of options for pain relief, including prescription and over-the-counter medications. It's important to talk to a member of your health care team before taking any over-the-counter medication to determine if it is safe and to make sure it will not interfere with your treatment. Many pain medications can lead to constipation, which may make your pain worse. Your doctor can prescribe medications that help to avoid constipation.

Physical therapy, acupuncture and massage may also be of help in managing your pain. Consult with a member of your health care team before beginning any of these activities.



Treatments for Bone Health

Managing Pain

Usually, the first step in treating bone complications is to get any bone pain that exists under control. Over-the-counter medications include acetaminophen (Tylenol, others) and nonsteroidal anti-inflammatory drugs (NSAIDs) such as aspirin, naproxen (Aleve, others) and ibuprofen (Advil, others). Prescription medications include opioids such as oxycodone, hydromorphone and morphine. The right pain medication, dose and schedule can relieve pain without causing further problems.

It's important that you tell your doctor immediately if you have severe back pain, or back pain that develops or changes rapidly. This may mean that a bone metastasis is pressing against your spinal cord. If that is the case, urgent medical care is required. Treatment options for this condition include steroids, radiation and surgery.

Medications

Your doctor may prescribe medications to improve the health of your bones and to reduce the risk of fractures.

RANK ligand inhibitors. Denosumab (Xgeva, Prolia) is designed to block a factor in bone development known as RANK ligand, which stimulates cells that break bone down. By blocking RANK ligand, denosumab may increase bone density and strength and help prevent the cancer from penetrating into the bone.

Bisphosphonates. These medications belong to a class of drugs called osteoclast inhibitors. They bind to the bone surface and slow the action of osteoclasts (a cell that breaks down bone). Bisphosphonates include alendronate (Fosamax), ibandronate (Boniva, Bondronat), pamidronate (Aredia), risedronate (Actonel, Atelvia) and zoledronic acid (Reclast, Zometa). By destroying osteoclasts, these medications help build bone, potentially resulting in an increase in bone density and helping to block cancer from penetrating into the bone.

SERMs. Another class of drugs used to prevent and treat bone complications is selective estrogen receptor modulators (SERMs). The exact way SERMs act to increase bone density is not fully known, but they are believed to slow the breakdown and removal of old bone. Drugs in this class include raloxifene (Evista), tamoxifen (Nolvadex, Soltamox) and toremifene (Fareston).



The Importance of Clinical Trials

Clinical trials are the standard by which we measure the worth of new treatments and the quality of life of individuals as they receive those treatments. For this reason, doctors and researchers urge people with cancer to take part in clinical trials.

Your doctor can guide you in making a decision about whether a clinical trial is right for you. Here are a few things that you should know:

- Often, people who take part in clinical trials gain access to and benefit from new treatments.
- Before you participate in a clinical trial, you will be fully informed as to the risks and benefits of the trial, including any possible side effects.
- Most clinical trials are designed to test a new treatment against a standard treatment to find out whether the new treatment has any added benefit.
- You can stop taking part in a clinical trial at any time for any reason.



The Role of Calcium and Vitamin D

To help keep your bones strong, it's important to get an adequate amount of calcium. Most experts agree the ideal range is between 500 and 750 milligrams per day. If the body does not get enough calcium for all of its needs through food or calcium supplements, it will take calcium from the bones, weakening them.

Foods that are high in calcium include dairy products, spinach, kale, okra and certain fish (sardines, salmon, perch and rainbow trout). Calcium supplements are available in two forms: calcium carbonate and calcium citrate. Calcium citrate is the preferred form, as it is easily absorbed into the body and reduces the risk of developing kidney stones.

To properly absorb calcium, the body also needs vitamin D. The body produces vitamin D when skin is exposed to sunlight, but most of us do not get enough sunlight to maintain adequate levels. Foods that provide Vitamin D include fatty fish (tuna, mackerel and salmon), cheese, egg yolks and beef liver. Some other foods come in versions fortified with calcium and/or vitamin D. Supplements are available to reach the recommended vitamin D levels of between 1,000 and 2,000 IUs (International Units) per day.

In rare cases, taking a vitamin D supplement may cause the level of calcium in the blood to go too high. Your doctor will measure your blood calcium level to make sure this is not happening when you are taking both calcium and vitamin D supplements. Treatment of high blood calcium levels includes increasing your intake of fluids by drinking more water or having fluids given to you intravenously (through a vein) to treat or prevent dehydration. Drugs that directly reduce calcium levels may also be used.



Dental Health During Cancer Treatment

Prior to starting any form of cancer therapy, it's important to have a thorough dental examination and receive treatment for any existing conditions or issues. This will help reduce the risk of dental-related complications arising during your cancer treatment.

Certain treatments, both for cancer itself and for bone health, can cause dental problems. Be sure to tell your dentist about the type(s) of therapy you are receiving, and ask if you should schedule more frequent visits during the course of your treatment.

RANK ligand inhibitors and bisphosphonates (see “Medications” section) are associated with medication-related osteonecrosis of the jaw (MRONJ). Although uncommon, MRONJ is a potentially serious side effect. It can cause pain, infection, loose teeth and exposed bone around the jaw. MRONJ is usually treated with antimicrobial mouth rinses and antibiotics. Sometimes, oral surgery is performed to remove the piece of exposed bone.

High-dose radiation given to treat head and neck cancers can cause osteoradionecrosis (the death of bone tissue) in the jawbone. Osteoradionecrosis can be treated with oral surgery and antibiotics. Additionally, hyperbaric oxygen therapy (HBOT) is sometimes used to prevent or treat osteoradionecrosis. In HBOT, pure (100 percent) oxygen is delivered while the person is in a pressurized chamber.

High-dose chemotherapy can reduce white blood cell counts, increasing the risk of dental-related infections. If an infection occurs, it is typically treated with antibiotics.

After cancer treatment, it's important to maintain good dental care. See your dentist every three to six months, depending on how much dental or periodontal disease you have.



Communicating With Your Health Care Team

As you manage your cancer, it's important to remember that you are a consumer of health care. The best way to make decisions about health care is to educate yourself about your diagnosis and get to know the members of your health care team, including doctors, nurses, nurse practitioners, physician assistants, dietitians, social workers and patient navigators.

Here are some tips for improving communication with your health care team:

Start a health care journal. Having a health care journal or notebook will allow you to keep all of your health information in one place. You may want to write down the names and contact information of the members of your health care team as well as any questions for your doctor.

Prepare a list of questions. Before your next medical appointment, write down your questions and concerns. Because your doctor may have limited time, ask your most important questions first and be as specific as possible.

Bring someone with you to your appointments. Even if you have a journal and a prepared list of questions or concerns, it's always helpful to have support when you go to your appointments. The person you bring may also think of questions to ask your doctor or remember details about your symptoms or treatment that you may have forgotten.

Write down your doctor's answers. Taking notes will help you remember your doctor's responses, advice and instructions. You can also ask the person who accompanies you to take notes for you, either in your journal or on a tablet or smartphone.

Record your visit if your doctor allows it. Recording the conversation with your doctor gives you a chance to hear specific information again or share it with family members or friends.

Incorporate other health care professionals into your team.

Your medical oncologist is an essential member of your health care team, but there are other health care professionals who can help you manage your diagnosis and treatment:

- Your primary care physician should be kept updated about your cancer treatment and any test results.
- Your local pharmacist is a great source of knowledge about the medications you are taking. Have all of your prescriptions filled at the same pharmacy to avoid the possibility of harmful drug interactions.
- Make sure your oncologist knows of any other medical conditions you have or any pain you are experiencing so that they can consult with your primary care physician or specialist as needed.

Remember, there is no such thing as over-communication.

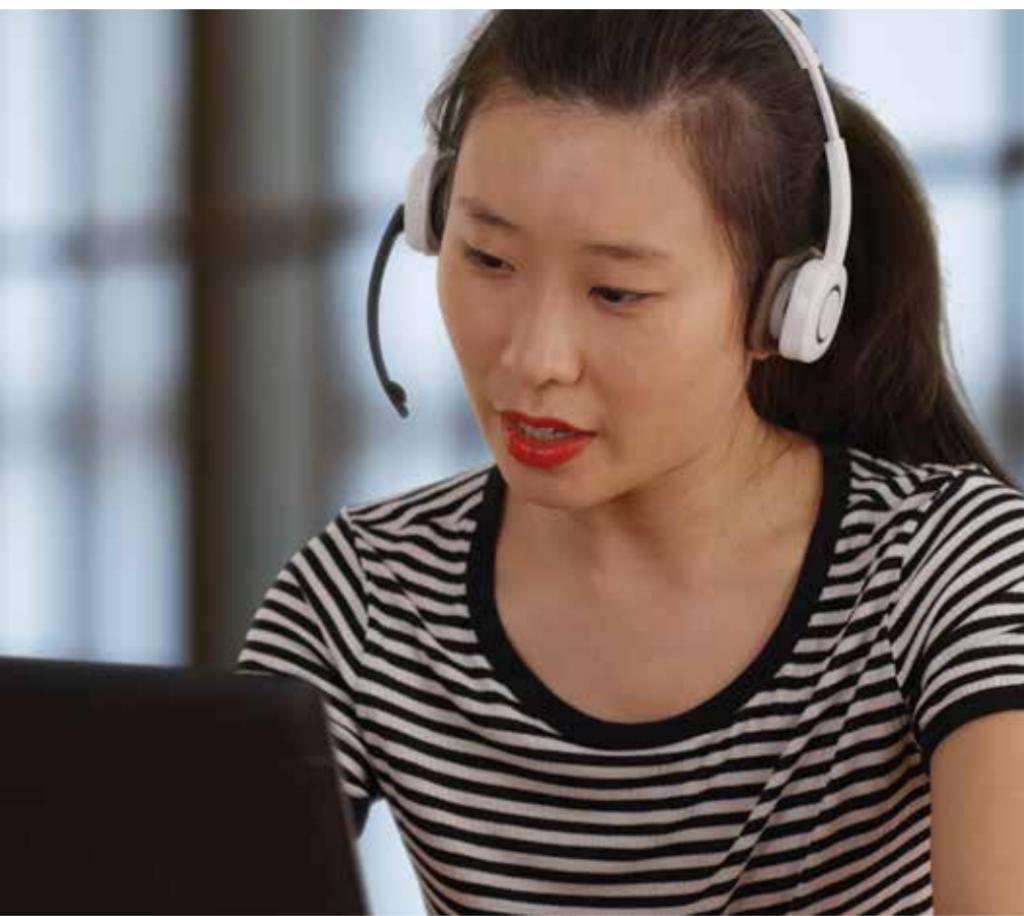
CancerCare's Free Support Services and Programs

It can be very difficult to receive a diagnosis of cancer, and adjusting to the necessary changes in your life can be challenging.

CancerCare can help. We are a national nonprofit organization providing free, professional services to anyone affected by cancer. Our licensed oncology social workers can provide support and education, help in navigating the complicated health care system and offer information on support groups and other resources.

To learn more about how CancerCare helps, call us at 800-813-HOPE (4673) or visit www.cancercare.org.

You will likely also build your own personal support network composed of family and friends. In doing so, it's best to take some time to think about the people in your life and how they are best suited to help. Match the task to their strengths—ask a family member who loves to shop to pick up something for you at the store, or ask a friend who's a good listener to come over for a chat.



Frequently Asked Questions

Q: Can exercise improve bone health?

A: Exercise is an important part of good bone health. Like muscle, bone is a living tissue. Regular exercise increases bone mass and makes bones stronger. Exercise also helps you maintain or improve muscle strength, coordination and balance, reducing the risk of falls and risk of fractures from falling. Tai chi is an excellent exercise for maintaining bone health because it builds strength and also improves balance. Using slow, flowing motions, tai chi targets the physical components needed to stay upright, including leg strength, reflexes, flexibility and range of motion. Consult with a member of your health care team before beginning any type of exercise program.

Q: What is a treatment summary and why is important?

A: A treatment summary, sometimes called a “shadow chart,” is a document that you create and keep in your possession. Maintaining your own records allows you and your family members to have instant access to the specifics of your cancer diagnosis and treatment. A treatment summary should include:

- Your name and date of birth
- Date of diagnosis
- Prescribed therapy/therapies, including dates started and stopped and dosages when appropriate
- Dates and types of post-diagnosis testing and the results of these tests
- Other medications and supplements you are taking
- Names, affiliations and contact information of all members of your health care team

Talk to your doctor or a member of your health care team about your intention to create a treatment summary, and ask what else they suggest be included. Take your treatment summary with you when you visit any doctor, not just your oncologist.

Q: I know that falls are a primary cause of bone fracture. Do you have tips for preventing falls?

A: Falls can be caused by many things, including illness, fatigue, dizziness or the effects of certain medications. But falls can also be caused by environmental factors that are easy to prevent. Here are tips to reduce the risk of falling in and around your home:

- Use an adhesive on the underside corners of large area rugs to keep them secured to the floor.
- Remove smaller loose rugs and mats from your home, as they can easily slip.
- Immediately repair loose floorboards and carpeting.
- Use nonslip mats in your bathtub or shower.
- Clear your walkways and stairs of anything you could trip over, such as newspapers, shoes, books, decorative items and electrical cords.
- Store items (e.g. food, cooking supplies, certain clothing) you use frequently in low, easy-to-reach places.
- Immediately clean up spills of any sort.
- Don't walk around the house in slippers, stockings, socks or barefoot. Instead, wear flat shoes with rubber soles.
- Make sure your home is well-lighted. Turn on the lights whenever you are in or passing through a room or hallway.
- Keep a flashlight with functioning batteries next to your bed.
- Turn on your outside lights if you are going out when it's dusk or dark.
- If your walkway or sidewalk is wet, walk on the grass.

Notes

Resources

CancerCare®

800-813-HOPE (800-813-4673)
www.cancercare.org

American Cancer Society

800-227-2345
www.cancer.org

Cancer.Net

Patient information from the American Society of Clinical Oncology
888-651-3038
www.cancer.net

National Cancer Institute

800-422-6237
www.cancer.gov

National Coalition for Cancer Survivorship

877-622-7937
www.canceradvocacy.org

National Comprehensive Cancer Network

www.nccn.org

Bone and Cancer Foundation

www.boneandcancerfoundation.org

CLINICAL TRIALS WEBSITES

EmergingMed

www.emergingmed.com

National Cancer Institute

www.cancer.gov

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