Bone Cancer Early Detection, Diagnosis, and Staging

Detection and Diagnosis

Finding cancer early -- while it's small and before it has spread -- often allows for more treatment options. Some early cancers may have signs and symptoms that can be noticed, but that's not always the case.

- Can Bone Cancer Be Found Early?
- Signs and Symptoms of Bone Cancer
- Tests for Bone Cancer

Stages and Outlook (Prognosis)

After a cancer diagnosis, staging provides important information about the extent of cancer in the body and anticipated response to treatment.

- Bone Cancer Stages
- Survival Rates for Bone Cancer

Questions to Ask About Bone Cancer

Here are some questions you can ask your cancer care team to help you better understand your cancer diagnosis and treatment options.

- Questions to Ask About Bone Cancer
Can Bone Cancer Be Found Early?

The information here focuses on primary bone cancers (cancers that start in bones) that most often are seen in adults. Information on Osteosarcoma, Ewing Tumors (Ewing sarcomas), and Bone Metastasis is covered separately.

At this time, there are no widely recommended screening tests for bone cancer in people who aren’t known to be at increased risk. (Screening is testing for cancer in people without any symptoms.)

Still, most bone cancers are found at an early stage, before they have clearly spread to other parts of the body. Symptoms such as bone pain or swelling often prompt a visit to a doctor. (For more on this, see Signs and Symptoms of Bone Cancer.)

For people at higher risk

For some people who are at increased risk for bone cancer because they have certain bone conditions (listed in Risk Factors for Bone Cancer), doctors might recommend closer monitoring. Watching for early signs and symptoms can sometimes be helpful in finding bone cancer early and treating it successfully.

Hyperlinks


References

Signs and Symptoms of Bone Cancer

The information here focuses on primary bone cancers (cancers that start in bones) that most often are seen in adults. Information on Osteosarcoma, Ewing Tumors (Ewing sarcomas), and Bone Metastasis is covered separately.

There are different types of primary bone cancer. Signs and symptoms depend mainly on the type, location, and extent of the cancer.

Pain

Pain in the area of the tumor is the most common sign of bone cancer. At first, the pain might not be there all the time. It may get worse at night or when the bone is used, such as when walking for a tumor in a leg bone. Over time, the pain can become more constant, and it might get worse with activity.

Sometimes a tumor can weaken a bone to the point where it breaks (fractures), which can cause a sudden onset of intense pain (see Fractures below).

Lump or swelling

Some bone tumors cause a lump or swelling in the area, although this might not happen until sometime after the area becomes painful.

Cancers in the bones of the neck can sometimes cause a lump in the back of the throat that can lead to trouble swallowing or breathing.

Fractures

Bone cancer can weaken the bone, but most often the bones do not fracture (break). People with a fracture next to or through a bone tumor usually describe sudden severe pain in a bone that had been sore for a few months.

Other symptoms

Cancer in the bones of the spine can press on the nerves coming out of the spinal cord. This can cause numbness and tingling or even weakness in different parts of the body, depending on where the tumor is.
Bone cancer, like many other types of cancer, can sometimes cause weight loss and fatigue.

If the cancer spreads to other organs, it can also cause other symptoms. For instance, if the cancer spreads to the lungs, it might result in a cough or trouble breathing.

Bone cancer isn’t common, and the symptoms it can cause are more likely to be due to other conditions, such as injuries or arthritis. Still, if you have symptoms that go on for a long time or get worse, it’s important to see a doctor so the cause can be found and treated, if needed.

Hyperlinks


References


Tests for Bone Cancer

The information here focuses on primary bone cancers (cancers that start in bones) that most often are seen in adults. Information on Osteosarcoma, Ewing Tumors (Ewing
sarcomas), and Bone Metastasis\(^3\) is covered separately.

Primary bone cancers are usually found when signs or symptoms a person is having prompt them to visit a doctor.

Symptoms and the results of physical exams and imaging tests might suggest that a person has bone cancer. But in most cases, doctors need to confirm this by taking and testing a tissue or cell sample (a procedure known as a biopsy\(^4\)).

It’s important for doctors to distinguish primary bone cancers from cancers that have spread to the bones from other parts of the body (bone metastasis\(^5\)), as well as from bone tumors that are benign (not cancer) and from other types of bone problems. These conditions might need different types of treatment.

Accurate diagnosis of a bone tumor often depends on combining information about which bone and what part of the bone is affected, how it looks on imaging tests, and what the tumor cells look like under a microscope.

If a bone cancer is found, other tests might then be needed to learn more about it.

**Medical history and physical exam**

If a person has signs or symptoms that suggest they might have a bone tumor, the doctor will want to take a complete medical history to find out more about the symptoms.

A physical exam can sometimes provide information about a possible tumor. For example, the doctor may be able to see or feel an abnormal mass.

The doctor may also look for problems in other parts of the body. When adults have cancer in the bones, it’s most often the result of cancer that started somewhere else and then spread to the bones (bone metastasis).

After the exam, if the doctor suspects it could be bone cancer (or another type of bone tumor), more tests will be done. These might include imaging tests, biopsies, and/or lab tests.

**Imaging tests**

Imaging tests use x-rays, magnetic fields, or radioactive substances to create pictures of the inside of the body. Imaging tests might be done for a number of reasons,
including:

- To help find out if a suspicious area might be cancer
- To help determine if a cancer might have started in another part of the body
- To learn how far cancer has spread
- To help determine if treatment is working
- To look for signs that the cancer might have come back

People who have or might have bone cancer will have one or more of these tests. For more information on these tests, see Imaging (Radiology) Tests for Cancer⁶.

X-rays

An x-ray⁷ of the bone is often the first test done if some type of bone tumor is suspected. Tumors might look “ragged” instead of solid on an x-ray, or they might look like a hole in the bone. Sometimes doctors can see a tumor that might extend into nearby tissues (such as muscle or fat).

Doctors might strongly suspect an abnormal area is a bone cancer by the way it appears on an x-ray, but usually a biopsy (described below) is needed to tell for sure.

Adults with bone tumors might have a chest x-ray done to see if the cancer has spread to the lungs. But this test isn't needed if a chest CT scan (discussed below) has been done.

Magnetic resonance imaging (MRI)

MRI scans⁸ create detailed images of the inside of the body using radio waves and strong magnets instead of x-rays, so no radiation is involved. A contrast material called gadolinium is often injected into a vein before the scan to better see details.

An MRI is often done to get a more detailed look at an abnormal area of bone seen on an x-ray. MRIs can usually show if it’s likely to be a tumor, an infection, or some type of bone damage from another cause.

MRIs can help determine the exact extent of a tumor, as they can show the marrow inside bones and the soft tissues around the tumor, including nearby blood vessels and nerves. MRIs can also show any small bone tumors several inches away from the main tumor (called skip metastases). Knowing the extent of tumor is very important when planning surgery.
Computed tomography (CT) scan

A CT scan combines many x-ray pictures to make detailed cross-sectional images of parts of the body.

CT scans aren't usually as helpful as MRIs in showing the detail in and around bone tumors. But they are often done to look for possible cancer spread in other parts of the body, such as the lungs, liver, or other organs.

CT scans can also be used to guide a biopsy needle into a tumor (a CT-guided needle biopsy). For this test, you stay on the CT scanning table while the doctor moves a biopsy needle toward the tumor. CT scans are repeated until the tip of the needle is within the mass. (See Needle biopsy below.)

Bone scan

A bone scan can show if a cancer has spread to other bones, and is often part of the workup for people with bone cancer. This test is useful because it can show the entire skeleton at once. A positron emission tomography (PET) scan, described below, can often provide similar information, so a bone scan might not be needed if a PET scan is done.

For this test, a small amount of low-level radioactive material is injected into the blood and travels to the bones. A special camera that can detect the radioactivity then creates a picture of the skeleton.

Areas of active bone changes attract the radioactivity and appear as “hot spots” on the skeleton. Hot spots may suggest areas of cancer, but other bone diseases can also cause the same pattern. To make an accurate diagnosis, other tests such as plain x-rays, MRI scans, or even a bone biopsy might be needed.

Positron emission tomography (PET or PET scan)

For a PET scan, a form of radioactive sugar (known as FDG) is injected into the blood. Because cancer cells in the body are growing quickly, they absorb large amounts of the sugar. A special camera then creates a picture of areas of radioactivity in the body. The picture is not detailed like a CT or MRI scan, but it provides useful information about the whole body.

PET scans can help show the spread of bone cancer to the lungs, other bones, or other parts of the body. They can also be used to see how well the cancer is responding to
Many machines can do a PET and CT scan at the same time (PET/CT scan). This lets the doctor compare areas of higher radioactivity on the PET scan with the more detailed appearance of that area on the CT scan.

**Biopsy**

The results of imaging tests might strongly suggest that a person has bone cancer, but a biopsy (removing some of the abnormal area and checking it under a microscope and with other lab testing) is usually the only way to be certain.

If the tumor is most likely a primary bone cancer, it’s very important that the biopsy is done by doctors experienced in treating bone tumors. Whenever possible, the biopsy and surgical treatment should be planned together, and the same doctor should do both. Proper planning of the biopsy can help prevent later complications and might reduce the amount of surgery needed later on.

Sometimes the wrong kind of biopsy can make it hard for the surgeon to later remove all of the cancer, which might then require more extensive surgery. It might also increase the risk of the cancer spreading.

The type of biopsy done is based on whether the tumor looks benign (not cancer) or malignant (cancer) and exactly what type of tumor it most likely is (based on imaging tests, the patient’s age, and where the tumor is). Some kinds of bone tumors can be diagnosed from needle biopsy samples, but larger samples (from a surgical biopsy) are often needed to diagnose other types. Plans to remove the entire tumor during the biopsy will also impact the type of biopsy done.

**Needle biopsy**

For these biopsies, the doctor uses a hollow needle to remove a small cylinder of tissue from the tumor. The biopsy is usually done with local anesthesia, where numbing medicine is injected into the skin and other tissues over the biopsy site. In some cases, the patient might need sedation or general anesthesia (where the patient is asleep).

Often, the doctor can aim the needle by feeling the suspicious area if it's near the surface of the body. If the tumor can't be felt because it's too deep, the doctor can guide the needle into the tumor using an imaging test such as an ultrasound or CT scan. These types of image-guided biopsies are usually done by a doctor who is an interventional radiologist.
There are 2 types of needle biopsies:

- **A core needle biopsy** uses a large needle to remove a cylinder of tissue. This is the most common type of needle biopsy used for bone tumors.
- **A fine needle aspiration** (FNA) biopsy uses a very thin needle on the end of a syringe to suck out a small amount of fluid and some cells from the tumor. This type of biopsy is less likely to be helpful for bone tumors, as the smaller needle might not be able to get through the bone. And even if it can be done, it might not remove enough of a sample for testing. But FNA can sometimes be useful for checking abnormal areas in other parts of the body for cancer cells.

**Surgical (open) biopsy**

For this type of biopsy, a doctor (typically an orthopedic surgeon) cuts through the skin to reach the tumor. If only a piece of it is removed, it is called an incisional biopsy. If the entire tumor is removed (not just a small piece), it's called an excisional biopsy.

These biopsies are often done in an operating room with the patient under general anesthesia (in a deep sleep). They can also be done using a nerve block, which numbs a large area of the body.

Again, it’s important that the biopsy is done by an expert in bone tumors, or it could result in problems later on. For example, if the tumor is on the arm or leg and the biopsy isn’t done properly, it might lower the chances of saving the limb. If possible, the incision for the biopsy should be lengthwise along the arm or leg because this is the way the incision will be made during the operation to remove the cancer. The entire scar of the original biopsy will also most likely need to be removed, so making the biopsy incision this way means less tissue will need to be removed later on.

**Lab tests**

**Testing the biopsy samples**

All samples removed by biopsy are sent to a pathologist (a doctor specializing in lab tests) to be looked at with a microscope. If cancer cells are seen, other types of lab tests might also be done to learn more about the exact type of cancer.

The pathologist will also assign the cancer a grade, which is a measure of how quickly it is likely to grow and spread, based on how the tumor cells look. Cancers that look
somewhat like normal bone tissue are described as low grade (and tend to grow more slowly), while those that look very abnormal are called high grade. For more on grading, see Bone Cancer Stages.

Blood tests

Blood tests are not needed to diagnose bone cancer, but they may be helpful once a diagnosis is made. For example, high levels of chemicals in the blood such as **alkaline phosphatase** and **lactate dehydrogenase (LDH)** can suggest that the cancer may be more advanced.

Other tests such as **blood cell counts** and **blood chemistry tests** are done before surgery and other treatments to get a sense of a person’s overall health. These tests can also be used to monitor the person’s health while they are getting treatments such as chemotherapy.

Hyperlinks

8. [www.cancer.org/treatment/understanding-your-diagnosis/tests/mri-for-cancer.html](http://www.cancer.org/treatment/understanding-your-diagnosis/tests/mri-for-cancer.html)
Bone Cancer Stages

The information here focuses on primary bone cancers (cancers that start in bones) that most often are seen in adults. Information on Osteosarcoma, Ewing Tumors (Ewing sarcomas), and Bone Metastasis is covered separately.

After someone is diagnosed with bone cancer, doctors will try to figure out if it has spread, and if so, how far. This process is called staging. The stage of a cancer describes how much cancer is in the body. It helps determine how serious the cancer is and how best to treat it. Doctors also use a cancer's stage when talking about survival statistics.

The stage of a bone cancer is based on the results of physical exams, imaging tests, and any biopsies that have been done, which are described in Tests for Bone Cancer.

Cancer staging can be complex, so ask your doctor to explain it to you in a way you understand.

A staging system is a standard way for the cancer care team to sum up the extent of the
Two main staging systems can be used to describe bone cancers.

**Musculoskeletal Tumor Society (MSTS) staging system**

A system commonly used to stage bone cancer is the MSTS system, also known as the Enneking system. It is based on 3 key pieces of information:

- The **grade (G)** of the cancer, which is a measure of how likely it is to grow and spread, based on how it looks under the microscope. In this system, cancers are either low grade (G1) or high grade (G2). Low-grade cancer cells look more like normal cells and are less likely to grow and spread quickly, while high-grade cancer cells look more abnormal.

- The **extent of the primary tumor (T)**, which is classified as either intracompartmental (T1), meaning it has basically remained within the bone, or extracompartmental (T2), meaning it has grown beyond the bone into other nearby structures.

- If the tumor has **metastasized (M)**, which means it has spread to other areas, either to nearby lymph nodes (bean-sized collections of immune system cells) or other organs. Tumors that have not spread to the lymph nodes or other organs are considered M0, while those that have spread are M1.

These factors are combined to give an overall stage, using Roman numerals from I to III. Stages I and II are divided into A for intracompartmental tumors or B for extracompartmental tumors.

<table>
<thead>
<tr>
<th>Stage</th>
<th>Grade</th>
<th>Tumor</th>
<th>Metastasis</th>
</tr>
</thead>
<tbody>
<tr>
<td>IA</td>
<td>G1</td>
<td>T1</td>
<td>M0</td>
</tr>
<tr>
<td>IB</td>
<td>G1</td>
<td>T2</td>
<td>M0</td>
</tr>
<tr>
<td>IIA</td>
<td>G2</td>
<td>T1</td>
<td>M0</td>
</tr>
<tr>
<td>IIB</td>
<td>G2</td>
<td>T2</td>
<td>M0</td>
</tr>
<tr>
<td>III</td>
<td>G1 or G2</td>
<td>T1 or T2</td>
<td>M1</td>
</tr>
</tbody>
</table>

In summary:

- Low-grade, localized tumors are stage I.
- High-grade, localized tumors are stage II.
• Metastatic tumors (regardless of grade) are stage III.

AJCC TNM staging system

The other staging system sometimes used for bone cancer is the American Joint Committee on Cancer (AJCC) TNM system. This system is based on 4 key pieces of information:

• The extent (size) of the main (primary) tumor (T): How large is the tumor and/or has it reached nearby bones? Is it in more than one spot in the bone?
• The spread to nearby lymph nodes (N): Has the cancer spread to nearby lymph nodes?
• The spread (metastasis) to distant sites (M): Has the cancer spread to distant parts of the body, such as the lungs, other bones, or the liver?
• The grade of the cancer (G): How abnormal do the cells look under a microscope?

Numbers or letters after T, N, M, and G provide more details about each of these factors. Higher numbers generally mean the cancer has more concerning features.

For example, the scale used for grading bone cancer in this system ranges from 1 to 3. Low-grade cancers (G1) tend to grow and spread more slowly than high-grade (G2 or G3) cancers.

• Grade 1 (G1) means the cancer looks much like normal bone tissue.
• Grade 2 (G2) means the cancer looks more abnormal.
• Grade 3 (G3) means the cancer looks very abnormal.

Once a person’s T, N, M, and G categories have been determined, this information is combined in a process called stage grouping to assign an overall stage. These stages (which are different from those of the MSTS system) are described by Roman numerals from I to IV (1 to 4), and are sometimes divided further.

Where the cancer started is another important factor in the AJCC system. In the current edition of the system (which came into use in 2018), the T categories are different for bone cancers that start in the arms, legs, trunk, skull, or facial bones, as opposed to cancers that start in the pelvis or spine. The T categories in the table below do not apply to cancers that start in the pelvis or spine. If you have a cancer that starts in one of these areas, it’s best to speak with your doctor about your cancer’s stage.
Two types of stages can be assigned to bone cancers in the TNM system:

- The **clinical stage** is based on the results of the exams and tests that have been done before the cancer has been treated with surgery. This stage can be used to help plan treatment.
- Once surgery has been done, the **pathological stage** (also called the **surgical stage**) can be determined, based on the results of exams and imaging tests, as well as what was found during surgery.

Sometimes, the clinical and pathological stages can be different (for example, if surgery finds that the cancer has spread farther than could be seen on imaging tests). The table below describes the pathological stage of the cancer.

<table>
<thead>
<tr>
<th>AJCC stage</th>
<th>Stage grouping</th>
<th>Stage description* (8 centimeters = about 3 inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IA</td>
<td>T1 N0 M0</td>
<td>The main tumor is no more than 8 centimeters across (T1). The cancer has not spread to nearby lymph nodes (N0) or to distant parts of the body (M0). The cancer is low grade (G1), or the grade cannot be determined (GX).</td>
</tr>
<tr>
<td></td>
<td>T2 N0 M0 OR T3 N0 M0 G1 or GX</td>
<td>The main tumor is more than 8 centimeters across (T2). The cancer has not spread to nearby lymph nodes (N0) or to distant parts of the body (M0). The cancer is low grade (G1), or the grade cannot be determined (GX).</td>
</tr>
<tr>
<td>IB</td>
<td>T1 N0 M0 G1 or GX</td>
<td>There is more than one tumor in the same bone (T3). The cancer has not spread to nearby lymph nodes (N0) or to distant parts of the body (M0). The cancer is low grade (G1), or the grade cannot be determined (GX).</td>
</tr>
<tr>
<td>IIA</td>
<td>T1</td>
<td>The main tumor is no more than 8 centimeters across (T1). The</td>
</tr>
<tr>
<td>Stage</td>
<td>T</td>
<td>N</td>
</tr>
<tr>
<td>-------</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>N0 M0 G2 or G3</td>
<td>cancer has not spread to nearby lymph nodes (N0) or to distant parts of the body (M0). The cancer is high grade (G2 or G3).</td>
<td></td>
</tr>
<tr>
<td>IIB</td>
<td>T2</td>
<td>N0</td>
</tr>
<tr>
<td>III</td>
<td>T3</td>
<td>N0</td>
</tr>
<tr>
<td>IVA</td>
<td>Any T</td>
<td>N0</td>
</tr>
<tr>
<td>IVB</td>
<td>Any T</td>
<td>N1</td>
</tr>
<tr>
<td>OR</td>
<td>Any T</td>
<td>Any N</td>
</tr>
</tbody>
</table>
* The following additional categories are not listed on the table above:

- **TX**: Main tumor cannot be assessed due to lack of information.
- **T0**: No evidence of a primary tumor.
- **NX**: Regional lymph nodes cannot be assessed due to lack of information.

For more general information on how cancers are staged, see [Cancer Staging](#).

**Hyperlinks**

4. [www.cancer.org/treatment/understanding-your-diagnosis/staging.html](http://www.cancer.org/treatment/understanding-your-diagnosis/staging.html)

**References**


Last Revised: June 17, 2021

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**Survival Rates for Bone Cancer**

The information here focuses on primary bone cancers (cancers that start in bones) that most often are seen in adults. Information on [Osteosarcoma](#), [Ewing Tumors](#) (Ewing
sarcomas), and Bone Metastasis is covered separately.

Survival rates can give you an idea of what percentage of people with the same type and stage of cancer are still alive a certain length of time (usually 5 years) after they were diagnosed. They don't tell you how long a person will live, but they might help give you a better understanding of how likely it is that your treatment will be successful.

Keep in mind that survival rates are estimates and are often based on previous outcomes of large numbers of people who had a specific cancer, but they can’t predict what will happen in any particular person’s case. These statistics can be confusing and might raise more questions for you. Talk with your doctor about how these numbers might apply to your situation.

What is a 5-year relative survival rate?

A relative survival rate compares people with the same type (and often stage) of cancer to people in the overall population. For example, if the 5-year relative survival rate for a specific type and stage of bone cancer is 80%, it means that people who have that cancer are, on average, about 80% as likely as people who don’t have that cancer to live for at least 5 years after being diagnosed.

Where do these numbers come from?

The American Cancer Society relies on information from the Surveillance, Epidemiology, and End Results (SEER) database, maintained by the National Cancer Institute (NCI), to provide survival statistics for different types of cancer.

The SEER database tracks 5-year relative survival rates for different types of bone cancer in the United States, based on how far the cancer has spread. The SEER database, however, does not group cancers by MSTS or TNM stages (stage 1, stage 2, stage 3, etc.). Instead, it groups cancers into localized, regional, and distant stages:

- **Localized**: There is no sign that the cancer has spread outside of the bone where it started.
- **Regional**: The cancer has grown outside the bone and into nearby bones or other structures, or it has reached nearby lymph nodes.
- **Distant**: The cancer has spread to distant parts of the body, such as to the lungs or to bones in other parts of the body.
5-year relative survival rates for certain bone cancers

These numbers are based on people diagnosed with certain types of bone cancer between 2011 and 2017. For rates for some of the other more common types of bone cancer, see Survival Rates for Osteosarcoma or Survival Rates for Ewing Tumors.

### Chondrosarcoma

<table>
<thead>
<tr>
<th>SEER stage</th>
<th>5-year relative survival rate</th>
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</thead>
<tbody>
<tr>
<td>Localized</td>
<td>91%</td>
</tr>
<tr>
<td>Regional</td>
<td>75%</td>
</tr>
<tr>
<td>Distant</td>
<td>23%</td>
</tr>
<tr>
<td>All SEER stages combined</td>
<td>79%</td>
</tr>
</tbody>
</table>

### Chordoma

<table>
<thead>
<tr>
<th>SEER stage</th>
<th>5-year relative survival rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Localized</td>
<td>86%</td>
</tr>
<tr>
<td>Regional</td>
<td>85%</td>
</tr>
<tr>
<td>Distant</td>
<td>61%</td>
</tr>
<tr>
<td>All SEER stages combined</td>
<td>79%</td>
</tr>
</tbody>
</table>

### Giant cell tumor of bone

<table>
<thead>
<tr>
<th>SEER stage</th>
<th>5-year relative survival rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Localized</td>
<td>87%</td>
</tr>
<tr>
<td>Regional</td>
<td>74%</td>
</tr>
<tr>
<td>Distant</td>
<td>42%</td>
</tr>
<tr>
<td>All SEER stages combined</td>
<td>76%</td>
</tr>
</tbody>
</table>

Some types of bone cancer are so rare that it can be hard to get accurate survival rates.
If you have a type of bone cancer not listed here and you'd like to know more about your prognosis (outlook), talk to your health care team to learn more.

**Understanding the numbers**

- **These numbers apply only to the stage of the cancer when it is first diagnosed.** They do not apply later on if the cancer grows, spreads, or comes back after treatment.
- **These numbers don’t take everything into account.** Survival rates are grouped based on the type of bone cancer and how far the cancer has spread. But other factors, such as your age and overall health, which bone the cancer started in, and how well the cancer responds to treatment, can also affect your outlook.
- **People now being diagnosed with bone cancer may have a better outlook than these numbers show.** Treatments improve over time, and these numbers are based on people who were diagnosed and treated at least 5 years earlier.

**Hyperlinks**


**References**


Questions to Ask About Bone Cancer

The information here focuses on primary bone cancers (cancers that start in bones) that most often are seen in adults. Information on Osteosarcoma,\(^1\) Ewing Tumors\(^2\) (Ewing sarcomas), and Bone Metastasis\(^3\) is covered separately.

It’s important to have honest, open discussions with your health care team. Ask any question, no matter how small it might seem. For instance, consider these questions:

**Before getting a bone biopsy**

- How much experience do you have doing this type of biopsy?
- Are you part of a team that treats bone cancers?
- What will happen during the biopsy?
- How long will it take to get the results from the biopsy?

**If bone cancer has been diagnosed**

- What type of bone cancer\(^4\) do I have?
- Has the cancer spread outside the bone?
- What is the stage of my cancer, and what does that mean?
- Do you think the cancer can be resected (removed) completely?
- Do I need any other tests before we can decide on treatment?
- Will I need to see any other types of doctors?
- How much experience do you have treating this type of cancer?
- Who else will be part of the treatment team, and what do they do?

**When deciding on a treatment plan**

- What are my treatment options\(^5\)?
• What do you recommend and why?
• (For tumors on an arm or leg) Which is the better surgical option: limb-sparing surgery or amputation? Why?
• Are there any clinical trials we should consider? How can I find out more about them?
• What’s the goal of treatment?
• Should I get a second opinion? How do we do that? Can you recommend a doctor or cancer center?
• How soon do I need to start treatment?
• What should I do to be ready for treatment?
• How long will treatment last? What will it be like? Where will it be done?
• What risks or side effects are there to the treatments you suggest?
• Which side effects start shortly after treatment, and which ones might develop later on?

During and after treatment

Once treatment begins, you'll need to know what to expect and what to look for. Not all of these questions may apply to you, but getting answers to the ones that do may be helpful.

• How will we know if the treatment is working?
• Is there anything we can do to help manage side effects?
• What symptoms or side effects should we tell you about right away?
• How can I reach you or someone on your team on nights, weekends, or holidays?
• Who can I talk to if I have questions about costs, insurance coverage, or social support?
• What are the chances of the cancer coming back with these treatment plans? What will our options be if this happens?
• What type of follow up and rehab will I need after treatment?
• Do you know of any local or online support groups where I can talk to others who have been through this?

Along with these sample questions, be sure to write down some of your own. For instance, you might want more information about recovery times so that you can plan your work schedule.
Keep in mind that doctors aren’t the only ones who can give you information. Other health care professionals, such as nurses and social workers, can answer some of your questions. To find more about speaking with your health care team, see *The Doctor-Patient Relationship*.

**Hyperlinks**


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Our team is made up of doctors and oncology certified nurses with deep knowledge of cancer care as well as journalists, editors, and translators with extensive experience in medical writing.

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