

# Primary Bone Cancer: Diagnosis



If your healthcare provider thinks you might have primary bone cancer (cancer that starts in your bones), you will need certain exams and tests to be sure. Diagnosing bone cancer starts with your healthcare provider asking you questions. You'll be asked about your health history, symptoms, risk factors, and family history of disease. A physical exam will be done.

## What tests might I need?

You may need one or more of these tests:

- X-rays and other imaging tests
- Blood tests
- Biopsy

## X-rays and other imaging tests

An X-ray of the bone is usually the first test done if your healthcare provider thinks you might have a primary bone cancer. Most bone cancers show up on X-rays. The tumor often gives the bone a ragged look. Or it may form a hole in the bone.

X-rays can often show the size, location, and shape of a primary bone tumor. If the tumor looks like cancer, you might need other imaging tests, like an MRI (magnetic resonance imaging) or a CT (computed tomography) scan, to get a better look at the tumor.

Your healthcare provider can often tell if a bone tumor is likely cancer based on how it looks on an X-ray or other imaging tests. But a biopsy of the tumor is needed to know for sure.

## Blood tests

Blood tests might be done to measure the levels of some substances in your body, such as alkaline phosphatase. Levels of this substance are often high in people who have recently broken a bone or who have bone cancer. This test may not be accurate in children and teens, who can have high levels because their bones are still growing. Other blood tests can be done to help improve the accuracy of this test and to get an idea of your overall health.

## Biopsy

A biopsy is the only sure way to tell if you have bone cancer. A biopsy can also help find out if the tumor is a primary or secondary bone cancer. A secondary bone cancer has spread to the bone from cancer that started in another part of the body.

Your healthcare provider can do a bone biopsy in one of two ways:

- Surgical biopsy (also called an open bone biopsy)
- Needle biopsy

Your biopsy should be done by a healthcare provider who has special training in diagnosing and treating bone tumors.

## Surgical biopsy

A surgical biopsy is also called an open bone biopsy. This is a minor surgery because a small cut is made in the skin over the tumor. This allows the healthcare provider to take a tiny piece of tissue from the bone tumor, which is called a sample.

Before the biopsy, tell your healthcare provider if you are taking any blood-thinners. You might be told to stop taking these medicines a few days before the biopsy.

Young children need general anesthesia, which makes them sleep and not feel pain during the surgery. Most adults also get general anesthesia before a surgical biopsy. Some people can be awake for the procedure. They only need medicine to numb the skin around the area.

During the biopsy, the healthcare provider cuts through your skin to take out a small part of the tumor. In some cases, the whole tumor is removed. But this must be carefully planned and is not often done. A healthcare provider called a pathologist will examine the removed bone tissue. It will be tested for cancer cells.

## Needle biopsy

Needle biopsies can be done in one of two ways:

- Fine needle biopsy
- Core needle biopsy

Before any needle biopsy, tell your healthcare provider if you are taking any blood-thinners. You might be told to stop taking these medicines a few days before the procedure.

In most cases, a local numbing medicine will be injected over the biopsy site. You might also get medicine in a vein to make you feel relaxed or sleepy.

If the tumor is near the surface of your body, the healthcare provider can aim the needle by feeling the tumor. If the tumor is too deep to feel, computed tomography (CT) might be used to guide the needle to the tumor. The CT scan takes pictures of the inside of your body. The healthcare provider can then see where the needle is going on a computer screen.

**Fine needle biopsy.** A fine needle biopsy uses a very tiny, hollow needle. The needle is put into the tumor and small amounts of fluid and tissue are taken out. A fine needle biopsy isn't used very often for bone tumors because it's hard to get enough tissue for testing.

The procedure normally takes only 10 to 15 minutes. The healthcare provider looks at the samples right away to make sure enough cells were taken.

**Core needle biopsy.** With a core needle biopsy, the healthcare provider uses a large needle to remove a small plug, or core, of tissue. The tissue removed is often enough to diagnose any type of tumor.

During the biopsy, you may feel some pressure and mild pain. But it's important to stay still. You'll have a small amount of bleeding where the needle goes through your skin. Pressure will be held over the needle hole until the bleeding stops. Then the area will be cleaned and covered with a bandage.

## Getting your test results

It usually takes about a week for biopsy results to come back. Waiting for the results can be stressful. But it's important to get the correct diagnosis. When your healthcare provider has the results, they will contact you. Your provider will talk with you about other tests you may need if primary bone cancer is found. Make sure you understand the results and what follow-up you need.

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