

Meta Title	Bone Marrow Biopsy Procedure Yosemite Pathology
Meta Description	If you're experiencing illness related to your blood cells, a bone marrow biopsy procedure may need to be performed. This article will give you everything you need to know about the procedure and more.
Recommended URL	https://www.ypmg.com/blog/bone-marrow-biopsy-procedure
Target Keywords	bone marrow biopsy procedure

Bone Marrow Biopsy Procedure: Everything You Need to Know

by Sarah Carpenter

If you're experiencing illness related to your blood cells, your physician might order a bone marrow biopsy. This is because bone marrow, the spongy tissue in the center of bones, creates blood cells for the whole body. A bone marrow biopsy procedure is performed to identify and diagnose blood disorders, cancer, and other conditions. This article will give you everything you need to know about the bone marrow biopsy procedure and more.

What Is a Bone Marrow Biopsy Procedure?

A [bone marrow biopsy procedure](#) involves the extraction of bone marrow from inside your bones for testing. The procedure is performed using a small needle — a small sample of your marrow is then sent to a lab and examined under a microscope.

What Is Bone Marrow, and What Does It Do?

Bone marrow is the spongy tissue in the center of our bones. Its primary job is to make stem cells and other substances, which then make red and white blood cells that nourish and cleanse our bodies. Simply put, without these cells, we wouldn't have blood.

Why Would I Need a Bone Marrow Biopsy Procedure?

Your doctor might order a bone marrow biopsy procedure if you're experiencing illness related to your blood cells. For example, if your doctor suspects you have a blood disorder or a type of cancer, a bone marrow biopsy may be required to confirm a diagnosis. A bone marrow biopsy can also be used to see how far a previously diagnosed cancer has spread in your body. Alternatively, it can also tell your doctor how well your treatment(s) are working.

What Are the Risks of Having a Bone Marrow Biopsy Procedure?

Complications from a bone marrow biopsy procedure are rare but can include [excessive bleeding](#), particularly in people with low numbers of platelets. Skin infection at the site of the exam is also possible, especially in people with weakened immune systems. Both potential complications can be treated by your provider by applying pressure to stop excess bleeding and prescribing antibiotic cream in the event of an infection.

Who Performs a Bone Marrow Biopsy Procedure?

A bone marrow biopsy procedure can be done in a hospital, clinic or doctor's office by a provider [specializing in blood disorders](#) (hematologist) or cancer (oncologist). Specially trained nurses can also perform bone marrow biopsies.

What Happens After a Bone Marrow Biopsy Procedure?

After your procedure, your bone marrow sample will be sent to a lab for analysis by a pathologist. They'll examine it under a microscope and prepare a report based on their findings. They'll share this with your provider, who will review it with you. Your provider can use the pathologist's findings to confirm a diagnosis, order more tests or recommend or adjust treatments based on your results.

What Conditions Can a Bone Marrow Biopsy Procedure Confirm?

Bone marrow biopsies can be used to diagnose blood disorders, cancers and other conditions affecting your blood or bone marrow. Some of these conditions include:

- **Anemia:** Not having enough red blood cells to carry oxygen throughout your body.
- **Aplastic Anemia:** Blood marrow can't produce enough red blood cells, white blood cells and platelets.
- **Leukopenia and Leukocytosis:** Too few or too many white blood cells.
- **Thrombocytopenia and Thrombocytosis:** Too few or too many platelets.
- **Polycythemia Vera:** A rare blood cancer that causes bone marrow to produce too many red blood cells.
- **Leukemia:** Cancer of the blood cells that can lead to abnormal blood cells, especially white blood cells.
- **Lymphoma:** Cancer of the lymphatic system that can lead to an abnormal number of red and white blood cells.
- **Multiple Myeloma:** A rare blood cancer that harms your plasma cells (a type of white blood cell).
- **Secondary Cancers:** Cancer that starts somewhere else in the body but spreads to bone marrow.
- **Myelofibrosis:** A disorder where fibrous scar tissue replaces bone marrow.
- **Myelodysplastic Syndrome:** Bone marrow disorder where stem cells don't mature properly.
- **Chromosomal Abnormalities and Vitamin Deficiencies:** Can trigger bone marrow to produce red blood cells that are misshapen or too large.

How To Prepare for a Bone Marrow Biopsy Procedure

Your provider should explain the procedure and provide instructions on how to best prepare. For example, if you plan to take a sedative for the procedure, your provider may have specific instructions on fasting the night before. In addition, your provider should have detailed information about your medical history and current medications. Tell them if you're experiencing bleeding disorders, taking vitamins and supplements, have allergies to medication and if you're pregnant. You will also need to plan your transportation to and from the procedure.

What To Expect During a Bone Marrow Biopsy Procedure

You'll change into a hospital gown for the 30-minute procedure, and you'll be awake during it. Your provider will numb the biopsy site with local anesthesia and may also give you a sedative to help you relax. There are a few steps to the procedure; typically, they are:

1. Lie on your side or stomach.
2. The provider will sanitize your skin and inject a numbing medication through your skin to the bone surface.
3. An incision will be made, and a small biopsy needle will be inserted into your bone. A syringe attached to the needle will remove liquid from your bone marrow.
4. A needle with a hollowed-out center will be inserted to collect a small piece of tissue from your marrow.
5. The provider will remove the needle containing the sample, apply pressure to your skin to stop any bleeding, and place a bandage over the wound.

How To Recover from a Bone Marrow Biopsy Procedure

Complications when recovering from a bone marrow biopsy procedure are rare. However, you should contact your provider if you notice any swelling or heavy bleeding at the biopsy site. Also, pay attention to any redness, worsening pain or fever.

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Sarah Carpenter is a freelance writer whose portfolio spans the industries of health care, higher education, and entertainment. Find out more at [her website](#).

Sources

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Mayo Clinic — [Bone Marrow Biopsy and Aspiration](#)

Cleveland Clinic — [Bone Marrow Biopsy](#)