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Bone Marrow Biopsy and Aspiration

Bone marrow biopsy and **aspiration** are procedures used to collect and test bone marrow---the soft, spongy tissue inside certain bones where blood cells are made. These tests are used to diagnose many different conditions that affect the blood and bone marrow, including leukemia, lymphoma, multiple myeloma, and many types of anemia.

Bone marrow biopsy and aspiration are often done to help diagnose a disease affecting the bone or blood. These tests might be the next step after a physical exam or lab tests such as a complete blood count (CBC) shows something abnormal.

Bone marrow biopsy and aspiration are often used to diagnose cancers and cancer-related diseases such as:

- [Ewing Sarcoma](#)¹
- [Leukemia](#)²
- [Lymphoma](#)³
- [Multiple Myeloma](#)⁴
- [Myelodysplastic Syndromes](#)⁵
- Polycythemia vera and other [myeloproliferative disorders](#)⁶
- [Waldenstrom Macroglobulinemia](#)⁷

These procedures can also help in diagnosing other diseases affecting the blood and bone marrow, including:

- Aplastic anemia and other types of anemia (low red blood cells)
- Low iron or high iron
- Abnormal blood cell counts

To find out if treatment is working

Bone marrow biopsy and aspiration can also be used at certain times when someone is undergoing treatment to find out how well the treatment is working or to check if the disease has gotten worse (progressed).

How are bone marrow biopsy and aspiration done?

Usually, these procedures are done at the same time. The bone marrow aspiration, which uses a smaller needle, is done first, followed by the biopsy, using a larger needle. Most often, the aspiration and biopsy are done on the back of the [hip bone](#)⁸ (the posterior iliac crest). In rare cases, if only a bone marrow aspiration is needed, the breastbone might be used instead.

Bone marrow aspiration

Some people may find it helpful to take medication before the procedure (premedication) to help with pain or anxiety, such as:

- An [opioid analgesic](#)⁹ such as oxycodone or tramadol for pain
- A benzodiazepine such as lorazepam for [anxiety](#)¹⁰

During the procedure, other medications may be used to numb the area or help keep you calm:

- Local anesthesia, such as lidocaine, is almost always used to numb the skin over the biopsy site
- Conscious sedation using an IV in the arm can be done in some cases to help you relax and feel drowsy.
- General anesthesia that makes the person completely unconscious is rarely done.

Other things that can help

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