Bone Marrow Aspiration and Biopsy

This handout explains what a bone marrow aspiration and biopsy is, what happens during the procedure, after care, and when to call your care team.

What is a bone marrow aspiration and biopsy?
Bone marrow is the soft, spongy material inside your bones. Bone marrow contains a network of blood vessels and fibers surrounded by fat and cells. It produces red blood cells (RBCs) to carry oxygen, white blood cells (WBCs) to fight infection, and platelets to help your blood clot. A bone marrow aspiration is the removal of the soft, spongy material. A bone marrow biopsy is the removal of a small, round piece of bone. You may also hear it called a “core biopsy”.

Where is the bone marrow taken from?
Most often, bone marrow is taken from the backside of your pelvic bones, from an area called the “iliac crest”. Occasionally, the front side of the hipbone or, rarely, the breastbone (sternum) may be used.

Why is a bone marrow aspiration and biopsy done?
The testing is done to monitor the health of your bone marrow and check your blood cell count, iron levels, presence of some cancers, abnormalities, or response to chemotherapy.

What happens during the procedure?
You will lie on your stomach or side, and the procedure site will be numbed with a local anesthetic. This will not make you sleepy or feel any different.

After the anesthetic takes effect, a clinician such as a doctor, advanced practice provider (nurse practitioner or physician’s assistant), or nurse will insert a needle into your bone and remove the sample of marrow and/or bone. You may feel some discomfort such as a “pulling” feeling while the sample is being taken. The procedure takes about 20 to 30 minutes.
Will I be awake during the procedure?
You may be prescribed a sedative to take by mouth before the procedure or given a sedative intravenously (IV) during the procedure. This medication will help you relax and decrease discomfort.

If you are given a sedative, you must have a caregiver take you home. Make arrangements to have someone you know take you home from Fred Hutchinson Cancer Center (this person cannot be a cab driver). You will not be able to receive sedation or be discharged unless you have someone with you.

Before your procedure, please tell your care team if you are allergic to tape, iodine or betadine, chlorohexidine, or any local anesthetic.

How much bone marrow will get taken?
For a bone marrow aspiration, your clinician will take about 1 to 2 teaspoons of bone marrow. For a bone marrow biopsy, another sample of marrow will be taken immediately after the bone marrow aspiration using a new needle through the same puncture site. Your clinician will also take a piece of bone that is about ½ to ¾ of an inch long and about the thickness of a pencil lead.

Will I be in pain after the procedure?
You may experience some discomfort after the local anesthetic has worn off. You can apply an ice pack to the site for 20 minutes, 2 to 3 times a day if it is tender. Walking may also help your discomfort. If the pain continues to bother you, contact your care team.

How do I care for the procedure site?
Your procedure site will be bandaged, and this bandage needs to stay in place for 24 hours. After 24 hours, you may remove the bandage and take a shower. However, do not sit in water (such as a bath or hot tub) until the procedure site is healed. Healing may take about a week.

Side effects and when to contact your care team
If you experience any of the side effects below, please call your care team right away.

- Continuous bleeding, uncontrollable pain, redness, swelling, or drainage at the procedure site
- Temperature taken under the arm
  - 37.5 to 37.7°C (99.5 to 99.9°F) for one hour or more
  - 37.8°C (100°F) or above
- Temperature taken by mouth:
  - 38 to 38.2°C (100.4 to 100.8°F) for 1 hour or more
  - 38.3°C (100.9°F) or above

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