

# Bone Marrow Aspiration and Biopsy



**PATIENT  
EDUCATION**



## **Introduction**

Bone marrow is the spongy tissue inside most bones such as those in your hip and thigh. Red marrow contains mature cells, which do not reproduce, and immature cells, which can reproduce. Parent cells, which are also immature, are called stem cells. Ultimately, stem cells will become different types of cells including:

- red blood cells that bring oxygen to all your cells
- white blood cells that fight infection
- platelets that help with normal blood clotting

*A bone marrow aspiration* is the removal of a sample of the marrow from inside the bone.

*A bone marrow biopsy* is the removal of a small piece of hard bone along with marrow.

## **The Purpose of Bone Marrow Aspiration and Biopsy**

This test is done when the results of a complete blood count (CBC) show abnormal types or numbers of platelets, red blood cells (RBCs), or white blood cells (WBCs) or to evaluate whether other diseases are present in the marrow.

The test may be done to find the cause of an abnormality; to identify some types of anemia (not enough red blood cells), certain types of blood and lymph cancers, or platelet abnormalities. The test may be repeated during treatment to monitor your response.

## Before the Procedure

- Talk with your doctor before you stop any medications that affect your blood's ability to clot (anticoagulants, aspirin, etc.).
- If you are on an aspirin regimen (you take it every day), ask your doctor if/when you should stop.
- You may need to take a short-acting anticoagulant drug such as Lovenox®, which can be stopped 24 hours before your procedure.
- Tell your doctor if you:
  - take any prescription or over-the-counter medications, vitamins, or herbal or diet supplements – particularly any that affect your blood's ability to clot
  - have allergies to any medications
  - have bleeding problems
  - are pregnant
- Generally, stop taking all nonsteroidal anti-inflammatory drugs (NSAIDs) 3 days before the procedure. This includes over-the-counter and prescription medications like ibuprofen (Advil®, Motrin®), Naproxen (Aleve®, Anaprox®), piroxicam (Feldene®), sulindac (Clinoril®), and ketoprofen.  
**Check with your practitioner to see if your instructions will be different.**
- We will be happy to discuss the procedure, risks, and benefits with you and to answer your questions.
- You must sign a consent form. This gives us permission to do the biopsy.

# **The Day of the Procedure**

## **Before the Procedure**

- The nurses will ask you some questions, take your blood pressure, pulse, and temperature, and may start an IV (intravenous line).
- If you receive IV sedation, extra time will be needed before the biopsy (to prepare you) and afterwards (to care for you).

## **During the Procedure**

The samples of bone marrow and bone are usually taken from the back of the hip bone. We will clean the skin and then inject a local anesthetic to numb the area.

Usually, the aspiration is done first. Once the skin is numb, the aspiration needle is inserted into the bone and a syringe is used to withdraw the liquid marrow. After the aspiration, the needle is removed and repositioned, or another needle is inserted into the bone for the biopsy. The core of the needle is removed and a tiny sample of the bone and marrow is forced up into the needle. The needle is removed, pressure is applied to stop any bleeding, and then a pressure bandage is applied.

## **How the Procedure Will Feel**

- There will be a sharp sting from injecting the medication to numb the skin.
- Since the inside of the bone cannot be anesthetized, this test may cause some discomfort. As the marrow is withdrawn, there may be a brief, sharp pain.
- The biopsy may also produce a brief, dull pain.
- Not everyone will experience these symptoms.

## **Potential Risks**

Though rare, persistent bleeding and infection are possible. Both can be controlled.

## **After the Procedure**

- The nurses will monitor you and check your dressing.
- Walking may help get rid of any discomfort you have after the procedure.
- You will be discharged shortly after the procedure.
- If you had sedation for your procedure, you should wait 24 hours before driving. If you drive before the 24 hours are up, you could hurt yourself and/or others. You must confirm that you have ride home and that you will not be the driver.
- If you only had a local anesthetic, driving restrictions do not apply.

## Home Instructions

- Twenty-four (24) hours after your procedure, take off the pressure bandage, and put on a new one. We will give you the supplies you need.
- Ask your practitioner what you can take to for discomfort/pain, if needed.
- You can take a shower 24 hours after removing the dressing. While the biopsy site may get wet, **DO NOT** take a tub bath, or submerge the biopsy site under water until 48 hours after your procedure.

## When to Call

Call us at **716-845-2300** for assistance if you have:

If you have:

- bleeding at the procedure site (apply pressure to the site right away)
- fever of 100.4°F (38°C) or higher
- signs of local infection at the biopsy site: redness, swelling, hot to the touch, or drainage
- increased pain at the biopsy site
- a question or concern

**Date of your Procedure** \_\_\_\_\_

**Your Attending Physician** \_\_\_\_\_

**Your Center's Phone Number** \_\_\_\_\_

