

## Bone Marrow Biopsy and Aspiration

### What is bone marrow biopsy and aspiration?

Bone marrow biopsy and bone marrow aspiration are procedures to collect and examine bone marrow — the spongy tissue inside some of your larger bones. Bone marrow biopsy and aspiration can show whether your bone marrow is healthy and making normal amounts of red blood cells, white blood cells and platelets. Studying the bone marrow cells under a microscope will give the doctor information to treat you or check your condition.

Bone marrow has a fluid portion and a more solid portion. Bone marrow biopsy takes a small sample of bone and bone marrow using a needle. Bone marrow aspiration takes a small sample of marrow fluid using a needle. Bone marrow biopsy and bone marrow aspiration are often done at the same time. Together, these procedures may be called a bone marrow exam. The procedures are usually done by a doctor who specializes in blood disorders (hematologist) or cancer (oncologist).

### What are the risks associated with this procedure?

Bone marrow exams are generally safe procedures. Complications are rare but can include:

- Excessive bleeding, particularly in people with low numbers of a certain type of blood cell (platelets)
- Infection, especially in people with weakened immune systems
- Long-lasting discomfort at the biopsy site

### How do I prepare for this test?

Bone marrow exams are often performed on an outpatient basis.

- **Tell your doctor about medications and supplements you take.** Certain medications and supplements may increase your risk of bleeding after a bone marrow biopsy and aspiration.
- **Tell your doctor about your allergies.** Please let your treatment team know if you are allergic to tape or any medications such as Chloraprep™ or lidocaine.
- **Tell your doctor if you're nervous about your procedure.** Discuss your worries about the exam with your doctor.

In some cases, your doctor may give you a sedative medication before your exam, in addition to a numbing agent (local anesthesia) at the site where the needle is inserted.

- Tell your doctor if you are pregnant.

### What will happen during the procedure?

Your blood pressure and heart rate will be checked. If you feel anxious about pain, you may be given an IV medication. The area used for a bone marrow biopsy is the hip bone. You will be asked to lie on your stomach or side. Your body will be draped with a cloth so only the exam site is showing. The area will be cleaned before the drape is placed. The area where the needle will be inserted is marked and cleaned. Local anesthesia will be administered to numb the biopsy site.

The bone marrow aspiration is usually done first. After making a small incision, the doctor will insert a hollow needle through the bone and into the bone marrow and using a syringe will withdraw a sample of the liquid portion of the bone marrow. You may feel a brief sharp pain or stinging. Several samples may be taken. The health care team checks the sample to make sure it's adequate. Rarely, fluid can't be withdrawn and the needle is moved for another attempt. It is very important you remain very still while the samples are taken.

Your doctor uses (a special tool that twists into the bone) a larger needle to withdraw a sample of solid bone marrow tissue through the same incision site for the biopsy. It is normal to feel pressure at the site and hear a crunching sound as the tool twists into the bone.

Pressure will be applied to the area where the needle was inserted to stop the bleeding. Then a bandage will be placed on the site.

### **What can I expect after the procedure is over?**

- You may feel some tenderness or discomfort after the numbing medicine wears off. The biopsy site may be stiff and sore for several days after the biopsy and you may have a bruise on the site. Ask your doctor about taking a pain reliever, such as acetaminophen (Tylenol®, others).
- Keep the bandage clean and dry for 24 hours. Don't shower, bathe, swim or use a hot tub. After 24 hours you can get the aspiration and biopsy area wet.

### **What do I need to report to my nurse or doctor after the procedure is done?**

- Bleeding that soaks through the bandage or doesn't stop with direct pressure
- A persistent fever
- Worsening pain or discomfort
- Swelling at the procedure site
- Increasing redness or drainage at the procedure site
- Numbness or weakness in the area of the procedure or down your leg

### **When do I expect the results of the test?**

The bone marrow samples are sent to a laboratory for analysis. Your doctor generally gives you the results within a few days, but it may take longer.

Depending on your exam results, you may need follow-up tests.

### **How long will the test take?**

Plan on being at National Jewish Health for at least 1-2 hours, although sometimes people stay longer. The preparation for the bone marrow aspiration and bone marrow biopsy will take about 1 hour. The procedure will take from 15 to 45 minutes. The recovery after the procedure may take approximately 1 hour. You will need to have someone drive you home if you have received sedation medication during the procedure.

### **How do you get to your test?**

If you are being seen at National Jewish Health on the day of your scheduled test, check in at the Front Desk. If you have questions please call 303-398-1355. Also, if you need to cancel the appointment or change the time please call.

Visit our website for more information about support groups, clinical trials and lifestyle information.

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