Bone Marrow Aspiration and Biopsy (Outpatient)
Patient Education

Rationale for this procedure:
Bone marrow biopsies and aspirations help to diagnose, confirm, and stage hematological diseases (diseases of the blood or bone marrow). The bone marrow makes the cells that circulate in your bloodstream: red cells that carry oxygen, white cells that fight infection, and platelets to help clot the blood. In many conditions, an abnormality in the blood can be diagnosed by looking at the source of those cells (bone marrow) under a microscope. Most times, both an aspirate and biopsy are performed. Your physician will tell you what is required for diagnosis.

Getting ready for the procedure:
- **Relax!** At Stanford, we perform thousands of bone marrow biopsies and aspirations every year. We will do everything we can to make you comfortable.
- **Pre-medications:** You may be offered medication to help with anxiety or pain with this procedure. These medications will make you sleepy which may last for several hours.
- **Arrange transportation:** If you elect to take pre-medications, then you cannot drive yourself home. Because the medications make you drowsy, you would be considered to be “driving under the influence”. If you want pre-medications and you arrive without a designated driver, the procedure will be rescheduled.
- **Blood thinners:** discuss with your physician if you are taking medications such as Coumadin or Aspirin.

Procedure details:
- **Where to go:** Most bone marrow biopsies are performed in the Infusion Treatment Area on the second floor of the cancer center. Ask your doctor where your procedure will be done.
- **Procedure site location:** Most commonly the procedure is performed on the hip bone while you lay on your stomach or side. Less frequently, the procedure can be performed on the sternum or the front hip bone.
- **Sterile Technique:** to prevent infection, the site of the procedure will be cleaned (using Betadine) and covered with sterile drapes.
- **Local Anesthetic:** The skin, tissue, and the surface of the bone will be made numb with local anesthetic (lidocaine), similar to what is used when you have a cavity filled by your dentist. You will feel brief burning pain when the lidocaine is injected.
- **Aspirate:** A small incision in the skin is made, and a needle is advanced into the bone marrow. A sample of the liquid portion of the bone marrow is taken using a syringe. The local anesthetic does not penetrate to the inside of the bone, so you may feel some pain. The level of pain varies by individual.
- **Biopsy:** A second needle is then inserted through the same incision. A sample of the bone marrow is taken as a solid core. This also may cause some pain.
- **Wound dressing:** A Band-Aid will be applied after the procedure. No sutures are used. The Band-Aid can be removed in 24 hours.
• **Bleeding:** There will be some bleeding during the procedure, but this will be stopped by applying pressure to the site, and/or by lying on your back for a few minutes.

**Risks and side effects:**

• **Bleeding:** Minimal bleeding is expected during the procedure. If the site bleeds within 24 hours, apply pressure by lying on your back until it stops. If it does not stop, you should call us, or go to the nearest emergency room.

• **Infection:** The procedure is done using sterile technique to reduce infection risk. If you develop signs of infection, including redness, warmth, pain at the site, or a fever of 100.5°F (38°C), you should call us.

• **Pain:** You will feel temporary burning pain when the Lidocaine is injected at the procedure site. You may feel pain when the aspirate and/or biopsy are taken from the bone. There may be some minor pain after the procedure when the lidocaine wears off: take Tylenol (acetaminophen) as directed.

• **Very rare problems may include:** delayed bleeding into the tissues, bone, nerve, or organ damage. Everything possible will be done to avoid these very rare complications.

**After the Procedure**

• **Activity:** Do not perform heavy-lifting or vigorous exercise for 24 hours. All other normal activity may be resumed.

• **Wound care:** Keep the area clean and dry. Do not shower for 24 hours. You may remove the Band-Aid after 24 hours, before you shower. Do not sit in water for 3 days after the procedure (bath, Jacuzzi, hot tub, pool or ocean).

**When to call 650-498-6000 (Stanford Cancer Center):**

• **Significant bleeding:** Apply pressure for 15 minutes. Call if the bleeding continues.

• **A large lump** at the procedure site: You may be bleeding into the tissue around the biopsy site (hematoma).

• **Pain** rated as a level 5 (on a scale from 0-10) despite taking Tylenol, or pain that persists for 24 hours after the procedure.

• **Redness, swelling, warmth or oozing** at the biopsy site.

• **Fever** of 100.5°F or 38°C.