Let's Talk About...

Bone marrow aspirate and biopsy

Bone marrow is a spongy material inside some bones. Bone marrow makes red blood cells, white blood cells, and platelets (PLATE-letz). Red blood cells, white blood cells, and platelets are all part of the blood that flows in the body. A bone marrow aspirate (AS-per-ate) is a test to see if the bone marrow is making blood cells correctly. A biopsy (BY-op-see) is a test in which the doctor takes a little bit of tissue from the bone marrow and looks at it under a microscope.

Why does my child need a bone marrow biopsy?

Usually, your doctor orders blood tests. In your child's case, the doctor needs different information. Looking at the bone marrow can help your doctor diagnose different diseases. Your doctor can also find out how far a disease has progressed and how effective treatments have been.

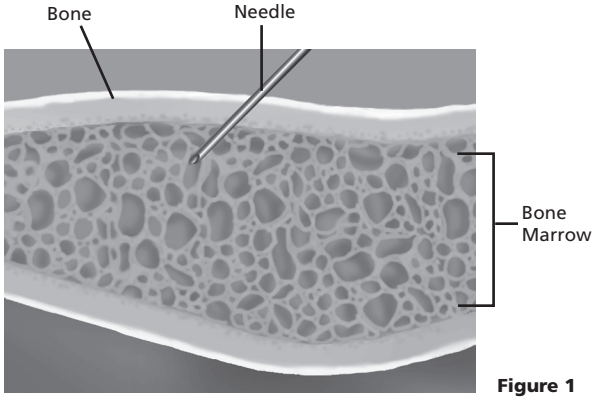

Figure 1

What are the procedures?

For a bone marrow aspirate, the doctor places a needle into the bone marrow and pulls out a small amount of bone marrow fluid with a syringe *(see Figure 1)*. For a bone marrow biopsy, the doctor places a larger needle in the same place to get a small piece of bone marrow. It is removed and examined.

What happens first?

Your child lies on her side or on her stomach on an exam bed *(see Figure 2 on back)*. A pillow or towel may be placed under your child's hips to raise them up. The doctor washes the skin over the test site with an antibacterial soap. The nurse places sterile towels around the area.

You may stay with your child during the procedure. Some parents choose not to stay. That is all right. A Child Life Specialist may be able to be with you and your child during the tests. The Child Life Specialist can help explain what is going on and help your child relax.

The doctor uses numbing medicines where the test will take place. This is so your child will not feel the needle as much. Two choices of numbing medicines are available.

- A numbing cream (EMLA) may be placed over the skin where the test takes place. A plastic bandage is placed over the cream. The cream needs to be placed one hour before the test.
- The doctor may place a small amount of numbing medicine into the skin with a small needle where the test takes place. This happens right before the test. The needle may sting at first. The numbing medicine works quickly so the stinging does not last long.

What happens during the test?

The two tests happen very quickly. After the area is numb, the doctor places a needle into the bone marrow. The doctor takes (aspirate "ASS-per-ate) a small amount of the marrow fluid out. Your child may feel pressure or feel pain very briefly. Then the doctor removes the needle.

Next, the doctor does the biopsy. The doctor puts a new, larger needle in the same place and twists it to get a small piece of bone marrow. Your child

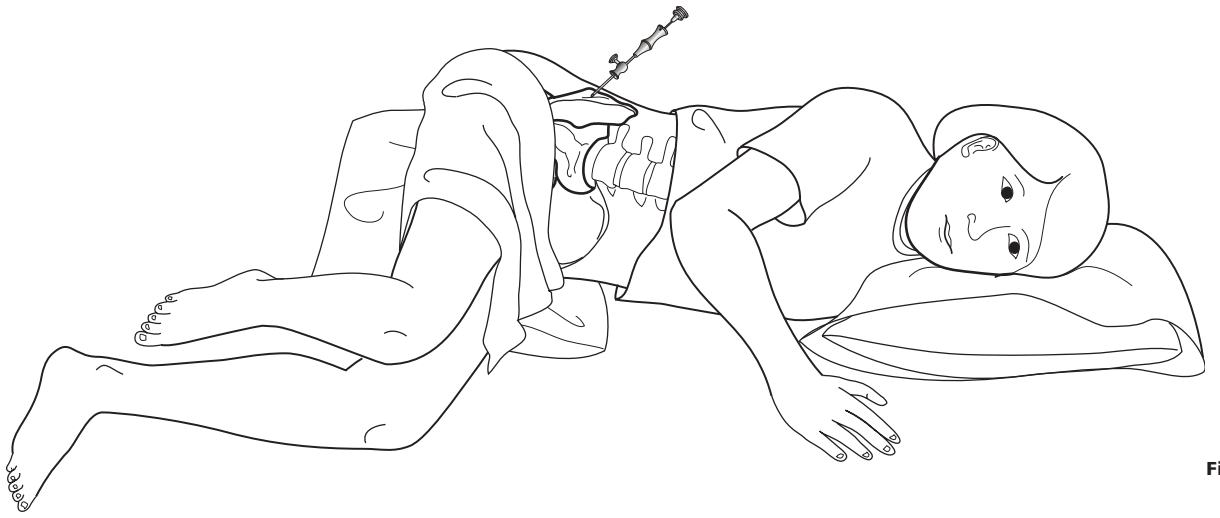

Figure 2

may feel pressure from the doctor pushing the needle into the bone. The doctor wiggles the needle to loosen it from the bone. The doctor removes the needle and sends the little piece of bone marrow to the lab for examination.

What will happen after the test?

Your child's skin is washed with anti-bacterial soap. Pressure is placed on the site for a few minutes to stop the bleeding. A tight-fitting bandage will be put on the area where the test was done. This dressing should stay on for 24 hours to prevent bleeding. After 24 hours, the dressing needs to be removed. It is normal for your child to be sore for a few days.

Are there complications?

There is always a slight possibility of complications with any procedure. Infection is a possible complication. If this happens, your child's doctor can treat the infection with antibiotic medicine. There can also be bleeding at the site of the test. Both of these complications are rare.

Call your doctor if...

- Your child has a fever.
- There is bleeding or drainage at the site where the needle went in or if the area is red, swollen, and warm.

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801.662.3500 Rev. 07/09

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