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. These three types of cells make up the blood that flows in the body. A bone marrow aspirate (AS-per-at) is a test to see if the bone marrow is making blood cells correctly. A biopsy (BY-op-see) is a test in which a little bit of tissue is taken from the bone marrow and looked at under a microscope.

Why does my child need a bone marrow biopsy or aspirate?
A bone marrow biopsy or aspirate can help your child’s healthcare provider diagnose different diseases. Your child’s healthcare provider can also find out how far a disease has progressed and how effective treatments have been.

What are the procedures for bone marrow biopsies or aspirates?
For a bone marrow aspirate, your child’s healthcare provider puts a needle into the bone marrow and pulls a small amount of bone marrow fluid out with a syringe (see Figure 1). For a bone marrow biopsy, your child’s healthcare provider puts a larger needle in the same area to remove and examine a small piece of the bone marrow.

What happens before a bone marrow biopsy or aspirate?
Your child lies on one side or their stomach on an exam bed (see Figure 2). A pillow or towel may be placed under your child’s hips to raise them up. The healthcare provider washes the skin over the test site with an antibacterial soap. You may stay with your child during the procedure.

A child life specialist may be with you and your child during the tests. They can help explain what is going on and help your child relax.

The doctor may use numbing medicines where the test will take place. This is so your child will not feel the needle as much.

- A numbing cream (EMLA) may be rubbed over the skin one hour before the test. A healthcare provider will then put a plastic bandage over the cream.

- A healthcare provider may give your child numbing medicine through a small needle where the test will take place. This usually happens right before the test. The medicine may sting at first, but the stinging does not last long because the numbing medicine works quickly.
What happens during a bone marrow biopsy or aspirate?
The two tests happen very quickly. After the area is numb, a healthcare provider puts a needle into the bone marrow and takes out a small amount of the marrow fluid. Your child may feel pressure or pain very briefly. Once the needle is removed, the healthcare provider puts a new, larger needle in the same place and twists it to get a small piece of bone marrow. Your child may feel pressure from the needle pushing into the bone. The healthcare provider wiggles the needle to loosen it from the bone. They then remove the needle and send the little piece of bone marrow to the lab to look at it.

What will happen after the bone marrow aspirate or biopsy?
Your child’s skin is washed with antibacterial soap. A healthcare provider puts pressure on the surgery site for a few minutes to stop the bleeding. They will then put a tight-fitting bandage on the area where the test was done. This dressing should stay on for 24 hours to prevent bleeding. After 24 hours, a healthcare provider will remove the dressing. It is normal for your child to be sore for a few days.

Are there complications after a bone marrow aspirate or biopsy?
Bleeding and infection may happen after a bone marrow aspirate or biopsy, but they are rare. If your child does get an infection, the healthcare provider will prescribe antibiotics to treat it.

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.