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Blood Test: Complete Blood Count

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What It Is

The complete blood count (CBC) is a common blood test that evaluates the three major types of cells in the blood: red blood cells, white blood cells, and platelets.

Why It's Done

A CBC may be ordered as part of a routine checkup, or if your child is feeling more tired than usual, seems to have an infection, or has unexplained bruising or bleeding.

Red blood cells:

The CBC's measurements of red blood cell (RBC) count, hemoglobin (the oxygen-carrying protein in RBCs), and mean (red) cell volume (MCV) provides information about the RBCs, which carry oxygen from the lungs to the rest of the body. These measurements are usually done to test for anemia, a common condition that occurs when the body has insufficient red blood cells.

White blood cells:

The white blood cell (WBC) count measures the number of WBCs (also called leukocytes) in the blood. The WBC differential test measures the relative numbers of the different kinds of WBCs in the

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blood. WBCs, which help the body fight infection, are bigger than red blood cells and there are far fewer of them in the bloodstream. An abnormal WBC count may indicate an infection, inflammation, or other stress in the body. For example, a bacterial infection can cause the WBC count to increase, or decrease, dramatically.

Platelets: The smallest blood cells, platelets play an important role in blood clotting and the prevention of bleeding. When a blood vessel is damaged or cut, platelets clump together and plug the hole until the blood clots. If the platelet count is too low, a person can be in danger of bleeding in any part of the body.

The CBC can also test for loss of blood, abnormalities in the production or destruction of blood cells, acute and chronic infections, allergies, and problems with blood clotting.

Preparation

No special preparations are needed. Having your child wear a short-sleeve shirt on the day of the test can make things easier for the technician who will be drawing blood.

The Procedure

Not much blood is drawn in a CBC. A health professional will usually draw the blood from a vein. For an infant, the blood may be obtained by puncturing the heel with a small needle. If the blood is being drawn from a vein, the skin surface is cleaned with antiseptic, and an elastic band is placed around the upper arm to apply pressure and cause the vein to swell with blood. A needle is inserted into a vein (usually in the arm inside of the elbow or on the back of the hand) and blood is withdrawn and collected in a vial or syringe. After the procedure, the elastic band is removed. Once the blood has been collected, the needle is removed and the area is covered with cotton or a bandage to stop the bleeding. The entire test will only take a few minutes.

What to Expect

Either method (heel sticking or vein withdrawal) of collecting a sample of blood is only temporarily uncomfortable and can feel like a quick pinprick.

Afterward, there may be some mild bruising, which should go away in a day or so.

Getting the Results

The blood sample will be processed by a machine, usually referred to as a hematology analyzer. Parts of the CBC results can be available in minutes in an emergency, but more commonly the full test results come after a few hours or the next day.

If a CBC test points to anemia, infection, or other concerns, your child's doctor may repeat the test just to be sure. If the second set of test results come back the same, your doctor will likely order further lab tests for your child to determine what's causing the problem and how to treat it.

Risks

The CBC test is considered a safe procedure. However, as with many medical tests, there are some risks, including:

- fainting or feeling lightheaded
- hematoma (blood accumulating under the skin)
- pain associated with multiple punctures to locate a vein

Helping Your Child

Having a blood test is relatively painless. Still, many children are afraid of needles. Explaining the test in terms your child can understand might help ease some of the fear.

Allow your child to ask the technician any questions he or she might have. Tell your child to try to relax during the procedure, as tense muscles can make it harder and more painful to draw blood. It also may help for your child to look away when the needle is being inserted into the skin.

If You Have Questions

If you have questions about the CBC test, contact your doctor. You can also discuss them with the technician before the exam.

Reviewed by: Kate M. Cronan, MD

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