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*"A Better Life, A Better Way"*

### The "CBC" or Complete Blood Count

A Complete blood count (CBC) provides important information about the kinds and numbers of cells in the blood, especially the red blood cells, white blood cells and platelets. A baseline CBC and annual CBC's can detect subtle trends that can significantly affect your general health. The CBC helps your healthcare professional evaluate symptoms such as weakness, fatigue, fever, bruising or weight loss. It can detect anemia and determine the severity of blood loss. It can diagnose conditions such as infection, diseases of the blood like polycythemia vera, leukemia and many other disorders. It can also help evaluate abnormal bleeding.

A CBC counts your blood cells and defines them for a variety of outcomes. The following lists the cells and components evaluated in the CBC.

**White blood cell (WBC) count:** These cells protect the body against infection. If an infection develops, white blood cells respond to the site, attack and destroy the bacteria, virus, or other organism causing it. The number of white blood cells is sometimes used to identify an infection or monitor the body's response to cancer treatment.

**White blood cell types (Automatic Differential):** The major types of WBC's are neutrophils, lymphocytes, monocytes, eosinophils, and basophils. Analyzers today can identify each cell type during the counting process. They each play a different role in protecting the body.

- **Neutrophils** usually make up close to 80% of the WBC's and are mainly infection fighters that engulf and destroy invading organisms like bacteria or fungus. They also release some enzymes and substances that affect the function of other cells.
- **Lymphocytes** are natural killers of viral infection and regulators of antibody production that produces immunity.
- **Monocytes** are another type of cell that engulfs and eats foreign cells especially gram-negative bacteria that are common in urinary tract infections.
- **Eosinophils** can increase in response to allergic disorders, inflammation of the skin and parasitic infestations.
- **Basophils** are only seen occasionally and are stimulated by allergens.

**Red blood cell (RBC) count:** Red blood cells carry oxygen from the lungs to the rest of the body. They also carry carbon dioxide back to the lungs so it can be exhaled.

**Hematocrit (HCT, or packed cell volume PCV)** measures the amount of space (volume) RBC's occupy in the blood. It is expressed a percentage, so a value of 38 means that 38% of the blood's volume is composed of RBC's.

**Hemoglobin (HGB)** is the oxygen carrying protein in a red blood cell and gives the cell its red color.

**Red blood cell indices:** There are three red blood cell indices:

- **The MCV (Mean Corpuscular Volume)** shows the **average size** of the red blood cell.
- **The MCH (Mean Corpuscular Hemoglobin)** shows the amount of **hemoglobin in the average** red blood cell. Very large or very small cells tend to have higher values.
- **The MCHC (Mean Corpuscular Hemoglobin Concentration)** shows **the concentration of hemoglobin in the average** red blood cell.

**Red cell distribution width (RDW)** indicates the span of different sizes of the red blood cells. A high RDW means there is a wide variety of sizes of your red blood cells generally stimulated by a specific need for increased RBC production.

**Platelets (thrombocytes)** are the smallest type of blood cell. They play a major role in blood clotting. When bleeding occurs, the platelets swell, clump together, and form a sticky plug that helps stop the bleeding.

**MPV(Mean platelet volume)** measures the average size of your platelets. New platelets are larger and their size gives your doctor information about the platelet production activity in your bone marrow.

**IF YOU HAVE ANY QUESTIONS REGARDING ANY OF THE TESTS LISTED ABOVE,  
PLEASE CONTACT YOUR PHYSICIAN**

**THANK YOU FOR PARTICIPATING IN OUR HEALTH FAIR  
AND  
WE LOOK FORWARD TO FUTURE FAIRS AND HEALTHY FUTURES.**