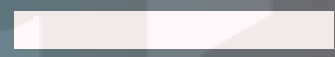




# The Simple Guide To Understanding Your CBC



# Reference Ranges



## What You Should Know

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Reference ranges can vary by age, sex, methods of testing, and other factors. There are no nationally established reference ranges for CMP and CBC values; instead, each laboratory tests a population and establishes its own reference ranges. Therefore, the reference ranges quoted are only approximate.



## Reference Range Measurements Legend:

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mg: milligram

g: gram

mmol: millimole

mEq: milliequivalent

dL: deciliter

IU: international unit

L: liter

mL: microliter

pg: picogram

fL: femtoliter

m: meter

mL: millilite

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# WHITE BLOOD CELL COUNT (WBC)

- **What It Is**

Measures the total number of white blood cells, which defend the body against infection; there are several different types of white blood cells: lymphocytes, monocytes, neutrophils, eosinophils, and basophils

- **Reference Range (USA)**

4,500-10,000 cells/mcL

- **What A Low Number Might Mean**

Autoimmune diseases, immunosuppression, bone marrow failure, chemotherapy, viral infection

- **What A High Number Might Mean**

Presentations are communication tools that can be used as lectures.

# LYMPHOCYTES, ABSOLUTE (LY, ABS) OR PERCENTAGE (LY, PCT)

- **What It Is**

Measures the number or percentage of lymphocytes, which are white blood cells that include B-cells, T-cells, and natural killer cells

- **Reference Range (USA)**

800-5,000 cells/mcL (abs)

18-45 (pct)

- **What A Low Number Might Mean**

Immunosuppression, HIV-AIDS, bone marrow failure, chemotherapy

- **What A High Number Might Mean**

Viral infections, leukemia, lymphoma

# MONOCYTES, ABSOLUTE (MO, ABS) OR PERCENTAGE (MO, PCT)

- **What It Is**

Measures the number or percentage of monocytes, which are white blood cells that move out of the circulating blood and into the tissues, where they mature into macrophages

- **Reference Range (USA)**

400-1,000 cells/mcL (abs)  
1-10 (pct)

- **What A Low Number Might Mean**

Immunosuppression, bone marrow failure, chemotherapy

- **What A High Number Might Mean**

Chronic infections, autoimmune diseases, leukemia

# GRANULOCYTES, ABSOLUTE (GR, ABS) OR PERCENTAGE (GR, PCT)

- **What It Is**

Measures the number or percentage of white blood cells with granules in their cytoplasm and two or more lobes in their nuclei; an inclusive term for neutrophils, basophils, and eosinophils, although neutrophils are by far the most abundant

- **Reference Range (USA)**

1,800-8,300 cells/mcL (abs)  
45-75 (pct)

- **What A Low Number Might Mean**

Immunosuppression, HIV-AIDS, bone marrow failure, chemotherapy

- **What A High Number Might Mean**

Infection, inflammation, leukemia, intense exercise, stress, corticosteroids



# NEUTROPHILS, ABSOLUTE (NE, ABS) OR PERCENTAGE (NE, PCT)

- **What It Is**

Measures the number or percentage of neutrophils, which are normally the most abundant circulating white blood cells and respond quickly to infection

- **Reference Range (USA)**

1,800-8,300 cells/mcL (abs)  
45-75 (pct)

- **What A Low Number Might Mean**

Immunosuppression, HIV-AIDS, bone marrow failure, chemotherapy

- **What A High Number Might Mean**

Infection, inflammation, leukemia, intense exercise, stress, corticosteroids

# EOSINOPHILS, ABSOLUTE (EOS, ABS) OR PERCENTAGE (EOS, PCT)

- **What It Is**

Measures the number or percentage of eosinophils, which combat parasitic infections and are involved in asthma or allergy responses

- **Reference Range (USA)**

0-800 cells/mcL (abs)

0-7 (pct)

- **What A Low Number Might Mean**

Generally not a concern.

- **What A High Number Might Mean**

Parasitic infections

# BASOPHILS, ABSOLUTE (BAS, ABS) OR PERCENTAGE (BAS, PCT)

- **What It Is**

Measures the number or percentage of basophils, which are involved in allergy responses

- **Reference Range (USA)**

0-100 cells/mcL (abs)  
0-0.5 (pct)

- **What A Low Number Might Mean**

Generally not a concern.

- **What A High Number Might Mean**

Active Allergic Response

# RED BLOOD CELL COUNT (RBC)

- **What It Is**

Measures the number of red blood cells, which pick up oxygen from the blood and deliver it to tissues throughout the body

- **Reference Range (USA)**

Male: 4.7-6.1 million/mcL

Female: 4.2-5.4 million/mcL

- **What A Low Number Might Mean**

Iron, vitamin B12, or folate deficiency; bone marrow damage; leukemia or lymphoma; acute or chronic blood loss; red blood cell hemolysis

- **What A High Number Might Mean**

Dehydration, renal problems, pulmonary disease, congenital heart disease, polycythemia vera

# RETICULOCYTES

- **What It Is**

Measures the percentage of circulating immature red blood cells

- **Reference Range (USA)**

0.5-2.0%

- **What A Low Number Might Mean**

Generally not a concern.

- **What A High Number Might Mean**

Anemia, recent blood loss, red blood cell hemolysis

# HEMOGLOBIN (HGB)

- **What It Is**

Oxygen-carrying pigment in red blood cells

- **Reference Range (USA)**

Male: 13.8-17.2 g/dL

Female: 12.1-15.1 g/dL

- **What A Low Number Might Mean**

Iron, vitamin B12, or folate deficiency; bone marrow damage; leukemia or lymphoma; acute or chronic blood loss; red blood cell hemolysis

- **What A High Number Might Mean**

Dehydration, renal problems, pulmonary disease, congenital heart disease, polycythemia vera

# HEMATOCRIT (HCT)

- **What It Is**

The percentage of red blood cells

- **Reference Range (USA)**

Male: 40.7%-50.3%

Female: 36.1%-44.3%

- **What A Low Number Might Mean**

Iron, vitamin B12, or folate deficiency; bone marrow damage; leukemia or lymphoma; acute or chronic blood loss; red blood cell hemolysis

- **What A High Number Might Mean**

Dehydration, renal problems, pulmonary disease, congenital heart disease, polycythemia vera

# MEAN CORPUSCULAR VOLUME (MCV)

- **What It Is**

Average size of red blood cells

- **What A Low Number Might Mean**

Iron deficiency

- **Reference Range (USA)**

80-95 fL

- **What A High Number Might Mean**

Vitamin B12 or folate deficiency



# MEAN CORPUSCULAR HEMOGLOBIN (MCH)

- **What It Is**

The amount of hemoglobin per red blood cell

- **Reference Range (USA)**

23-31 pg

- **What A Low Number Might Mean**

Iron deficiency

- **What A High Number Might Mean**

Vitamin B12 or folate deficiency

# MEAN CORPUSCULAR HEMOGLOBIN CONCENTRATION (MCHC)

- **What It Is**

The average concentration of hemoglobin in a given volume of red blood cells

- **Reference Range (USA)**

32-36 g/dL

- **What A Low Number Might Mean**

Iron deficiency

- **What A High Number Might Mean**

Sickle cell disease, hereditary spherocytosis

# RED CELL DISTRIBUTION WIDTH (RDW)

- **What It Is**

A measurement of the variation in red blood cell size

- **Reference Range (USA)**

11-15 %

- **What A Low Number Might Mean**

Generally not a concern

- **What A High Number Might Mean**

Iron deficiency, vitamin B12 or folate deficiency, or recent blood loss.

# PLATELET COUNT (PLT)

- **What It Is**

Measures the number of platelets, which are important for blood clotting

- **Reference Range (USA)**

150-400 Thousand/mcL

- **What A Low Number Might Mean**

Bone marrow failure, chemotherapy, viral infections, lupus, pernicious anemia (due to vitamin B12 deficiency), leukemia or lymphoma, sequestration in the spleen, certain medications

- **What A High Number Might Mean**

Leukemia, myeloproliferative disorders (which cause blood cells to grow abnormally in bone marrow), inflammatory conditions

# MEAN PLATELET VOLUME (MPV)

- **What It Is**

The average volume of a platelet; newer platelets tend to be larger than older ones

- **Reference Range (USA)**

7.0-11.0 fL

- **What A Low Number Might Mean**

Aplastic anemia, thrombocytopenia

- **What A High Number Might Mean**

Certain inherited disorders

# MEAN PLATELET VOLUME (MPV)

- **What It Is**

The average volume of a platelet; newer platelets tend to be larger than older ones

- **Reference Range (USA)**

7.0-11.0 fL

- **What A Low Number Might Mean**

Aplastic anemia, thrombocytopenia

- **What A High Number Might Mean**

Certain inherited disorders

57%

OF MOBILE TRACKERS ARE  
READY TO TRY AT HOME BLOOD  
TESTING





# STEPS TO BEGIN



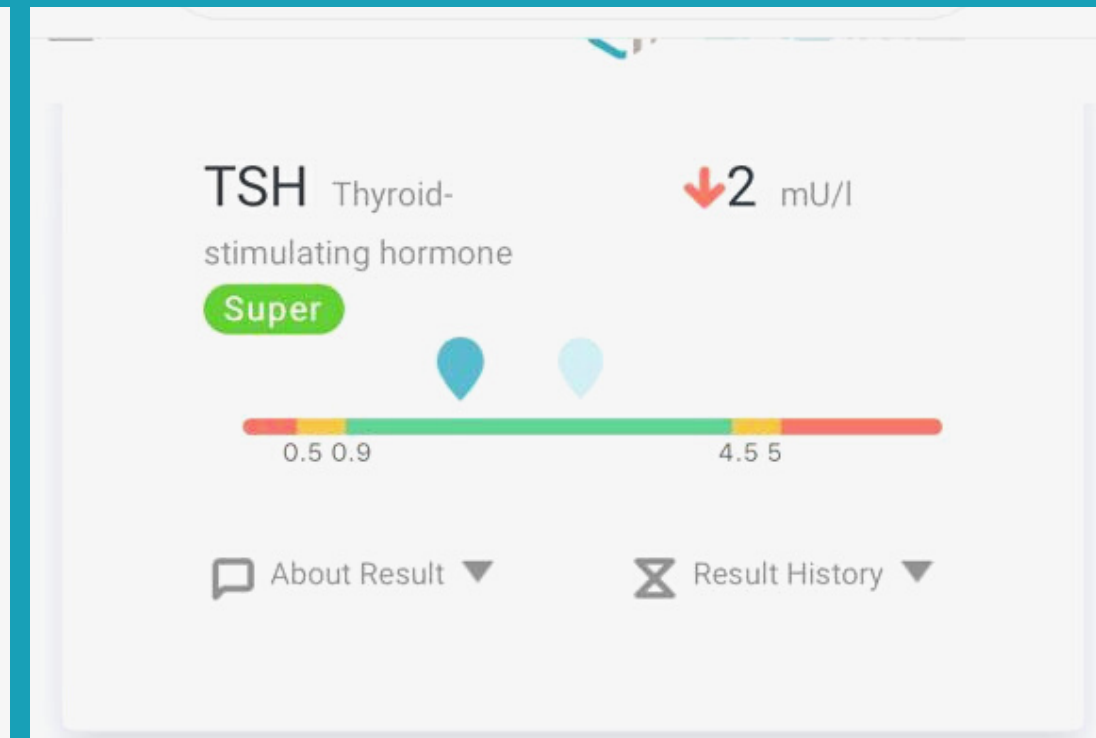
## STEP 1

Select Your Test Online  
At [www.labme.ai](http://www.labme.ai)



## STEP 2

Perform The Test & Mail  
Back (For Free)



## STEP 3

Get Your Simple To  
Understand Results On  
Mobile Or Desktop

TRACK, MONITOR & ANALYZE



## WHY LAB ME?

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## WHAT IS LAB ME?

Allows you to track your health, monitor for early disease &/or monitor an existing disease/treatment - from the convenience of your own home (no fasting & waiting).

## HOW DOES IT BENEFIT ME?

Saves you waiting rooms, long drives, scheduling and confusing results. While saving you thousands of dollars.



**1 out of 4**

ARE TERRIFIED OF  
NEEDLES

**10 out of 10**

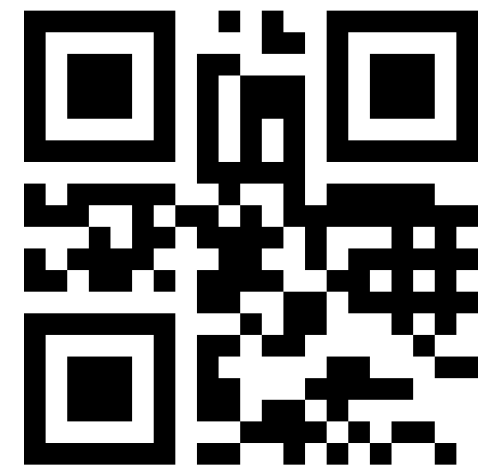
DISLIKE WAITING ROOMS  
& SCHEDULING





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