The Blood Project

UNDERSTANDING YOUR CBC

A patient guide to what matters – and what usually doesn't

A CBC lists many numbers, and electronic medical records often highlight some of them in red. Most of those red values are **not** concerning. This handout explains which CBC numbers matter for your health and which ones you can usually ignore.

What the CBC Measures

A CBC checks your white cells, red cells, and platelets.

The 3 Most Important Numbers

1. White Blood Cell Count (WBC)

White blood cells help your body fight infection.

Typical range: ~4,000–11,000 (or 4-100 x 10^9/L) (varies by lab)

What matters:

- **Very low counts** → may increase infection risk
- **Very high counts** → infection, inflammation, or (rarely) blood disorders
- **Trends over time**, not single values

What usually doesn't matter:

- Mild changes after stress, exercise, or illness
- Small day-to-day fluctuations
- Slightly out-of-range results

A note about the differential: A CBC **does not include** a breakdown of WBC types. Your doctor may order a **differential** to look at neutrophils, lymphocytes, and other subtypes if more detail is needed.

2. Hemoglobin / Hematocrit

Hemoglobin carries oxygen, and the hematocrit usually rises and falls along with it.

Measures how well your blood carries oxygen.

- **Hemoglobin (Hb):** main number used to diagnose anemia
- **Hematocrit (Hct):** percentage of blood made of red cells
- They usually move together.

Typical hemoglobin: 12–16 g/dL (women), 13.5–17.5 g/dL (men)

What matters:

- **Low hemoglobin** → anemia
  - Symptoms often appear when Hb is **7–8 g/dL or lower**
- **High hemoglobin/hematocrit** → dehydration or (less commonly) polycythemia

What usually doesn't matter:

- Slightly high or low **RBC count** when hemoglobin is normal
- Small variations between visits
- Mild changes with illness, menstruation, or pregnancy

Bottom line: Hemoglobin (or hematocrit) is the **main red cell number** to follow. The RBC count alone does **not** diagnose anemia.

3. Platelet Count

Platelets help your blood clot.

Typical range: ~150,000–450,000 (or 150-450 x 10^9/L)

What matters:

- **Very low (<50,000):** may increase bleeding risk
- **Extremely low (<10,000):** higher risk of spontaneous bleeding
- **Very high (>500,000):** usually reactive (infection/inflammation)

What usually doesn't matter:

- Counts between **100,000–150,000** (usually safe)
- Mild increases during recovery from illness
- One-time low results from **platelet clumping**

Note: Platelet counts do not need to be "perfect" to be safe. The body has a **large safety margin**.

What About the Other CBC Numbers?

Some CBC values (like MCV, MCHC, and RDW) give your doctor more detail about your red blood cells, but patients usually do not need to follow these.

Test Result	What it means	Why it usually doesn't matter for patients
MCV	Average size of red cells	Mildly high or low values are common and usually harmless
MCHC	Concentration of hemoglobin inside red cells	Used by physicians to classify anemia; not important for patients to follow
RDW	Variation in red cell size	Many healthy people have a slightly high RDW

MCV, mean cell volume; MCHC, mean cell hemoglobin concentration; RDW, red cell distribution width

Why Are so Many Values Highlighted in Red?

Why it happens:

- Lab “reference ranges” flag anything statistically outside the middle 95%
- Normal variation from person to person
- Electronic medical systems have low thresholds for flagging

What it means:

- A red value does **not** mean something is wrong
- Red highlights are common and often harmless
- Your doctor interprets results in **context**, not based on color