The Blood Project

# UNDERSTANDING THROMBOCYTOSIS

*A brief guide for patients with a high platelet count*

A high platelet count is often found on a routine blood test. Many people have no symptoms, and in most cases the elevation is temporary and caused by infection, inflammation, iron deficiency, or recovery from recent illness or surgery.
Your doctor's goal is to understand why the platelet count is elevated, whether it needs treatment, and how it should be monitored. A much smaller group of people have a bone marrow condition that causes persistent thrombocytosis and requires long-term follow-up.

## What are platelets?

Platelets are small cell fragments in the bloodstream that help stop bleeding. They circulate quietly until a blood vessel is injured, then they stick to the injured area and help form a clot. Platelets work together with clotting proteins to prevent blood loss.

## What is thrombocytosis?

Thrombocytosis means a platelet count higher than the usual range, typically above 450,000 platelets per microliter.
There are two main patterns:
**Reactive (secondary) thrombocytosis** is the most common and occurs when the body makes more platelets in response to another condition such as infection, inflammation, or low iron. In these cases, the platelets work normally and the count usually returns toward normal once the underlying problem is treated.
**Primary thrombocytosis** is less common and occurs when the bone marrow produces too many platelets on its own, as in essential thrombocythemia or another myeloproliferative neoplasm. These conditions require ongoing monitoring by a hematologist.

## Common causes

- infection of any type
- inflammation from chronic illness, arthritis, or cancer
- iron deficiency
- recent surgery, bleeding, or recovery from serious illness
- removal of the spleen (after splenectomy, platelet counts often rise and may stay elevated)
- certain medications such as epinephrine or growth factors
- smoking
- bone marrow conditions such as essential thrombocythemia (less common)

## Does it cause symptoms?

Most people with mild or moderate thrombocytosis have no symptoms. Any symptoms are usually related to the underlying condition, such as fatigue or fever from infection or discomfort from inflammation.
In a small number of people, especially when platelet counts are very high, usually above about 1,000,000–1,500,000, symptoms can include:

- headaches or visual changes

- tingling or burning in the hands or feet
- easy bruising, nosebleeds, or gum bleeding

These symptoms are uncommon and occur more often when the bone marrow is the cause rather than a temporary reactive change.

## Is it dangerous?

Reactive thrombocytosis is usually not dangerous and improves when the underlying condition is treated. Platelets function normally in these situations, even if the count is high.

Primary thrombocytosis carries a higher risk of blood clots because the bone marrow produces platelets that may not function normally.

When platelet counts become very high, usually above about 1,000,000–1,500,000, bleeding risk can also increase. This can happen because platelets may not work properly and clotting proteins can become depleted. This is unusual but requires prompt evaluation.

## How is it evaluated?

- repeat complete blood count to confirm the result
- review of recent illness, inflammation, surgery, or bleeding
- iron studies to check for iron deficiency
- review of medications and smoking history
- physical examination for signs of infection, inflammation, or enlarged spleen
- mutation testing (often JAK2, CALR, and MPL) or bone marrow examination when persistent high counts raise concern for a bone marrow condition

## Do I need a bone marrow biopsy?

Most people with thrombocytosis do not need a bone marrow biopsy.

A biopsy may be considered when the platelet count remains high without an obvious cause, when the count is very high and persistent, or when mutation testing suggests a bone marrow condition. Your doctor will decide based on the pattern of your blood counts and other test results.

## How is it treated?

Treatment depends on the underlying cause. Infections are treated appropriately, inflammation is managed, and iron deficiency is corrected with diet or supplements. Adjusting medications or supporting recovery after surgery may also lower the platelet count.

People with reactive thrombocytosis typically do not require platelet-lowering medications. Treatment such as aspirin or medicines that reduce platelet production is usually reserved for primary thrombocytosis or for situations where the risk of clotting or bleeding is high.

## When should I contact my doctor?

Contact your doctor if you notice unexplained bruising, frequent nosebleeds, bleeding gums, new or severe headaches, vision changes, chest pain, shortness of breath, or swelling of one leg.

Sudden neurological symptoms, severe shortness of breath, or heavy uncontrolled bleeding require emergency care.

## What is the usual plan going forward?

Most people with reactive thrombocytosis are followed with periodic blood counts while the underlying condition is treated. The platelet count often improves over several weeks to months.

If the platelet count does not improve, if no clear cause is found, or if counts remain very high, additional testing or hematology referral may be needed. People diagnosed with a primary bone marrow condition will have regular long-term follow-up to monitor symptoms, platelet levels, and treatment needs.

---

## Key points to remember

- **most cases are reactive:** most high platelet counts are temporary and improve when the underlying cause is treated.
- **threshold:** a platelet count above 450,000 is considered elevated, but the cause matters more than the number.
- **iron deficiency is common:** iron deficiency is a frequent and correctable cause, and treating it can lower the platelet count.
- **bone marrow causes are less common:** primary bone marrow conditions require long-term specialist care.
- **very high counts can bleed:** very high platelet counts can sometimes increase bleeding risk, not just clotting risk.
- **monitoring guides decisions:** repeat blood counts help your doctor see trends and decide whether more testing or treatment is needed.