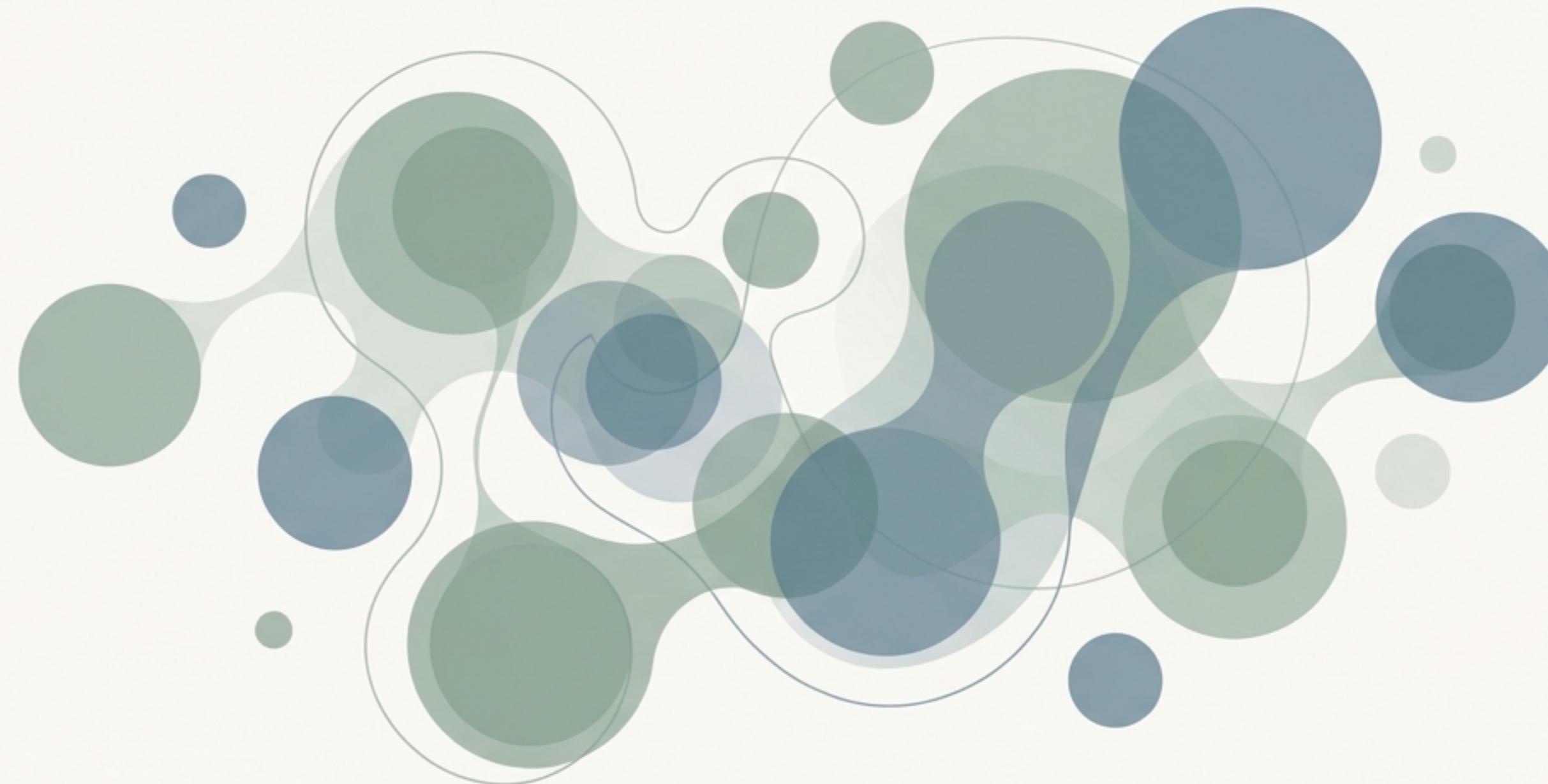


Understanding Your Neutrophil Count: The Duffy-Null Pattern

A guide to a common and healthy genetic variation.



You may have been told your neutrophil count is lower than average.

Finding out that any blood test result is outside the typical range can be concerning.

concerning. While a low neutrophil count can sometimes be caused by illness or medication, it's essential to understand the specific reason. In many cases, it simply reflects your unique, healthy genetic makeup.

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ANC (Neutrophils)

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A lower number can be a sign of health, not illness.

The Duffy-null pattern is a normal genetic variation that affects how your body distributes its infection-fighting cells, called neutrophils. People with this pattern are healthy, and their lower count in a blood test does not increase their risk of infection.

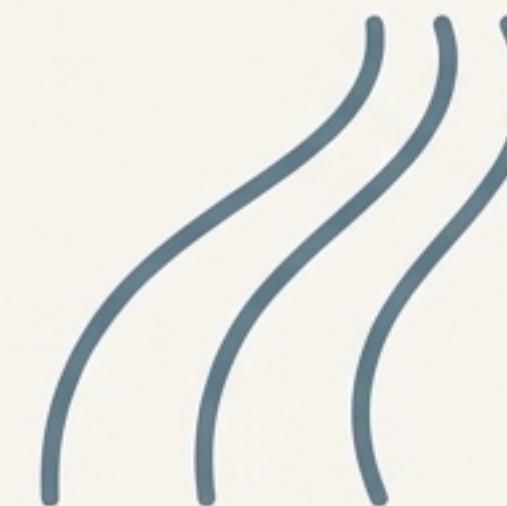
“Your lower count is a normal genetic pattern, not a sign of illness.”

Let's think of your neutrophils as travelers.

To understand what's happening, imagine your body's neutrophils are travelers. Your bloodstream is the "highway," and your body's tissues (like your organs and skin) are their "destinations"—where they live and work. A standard blood test is just a brief snapshot of the traffic on the highway at one specific moment.



Neutrophil
(Traveler)



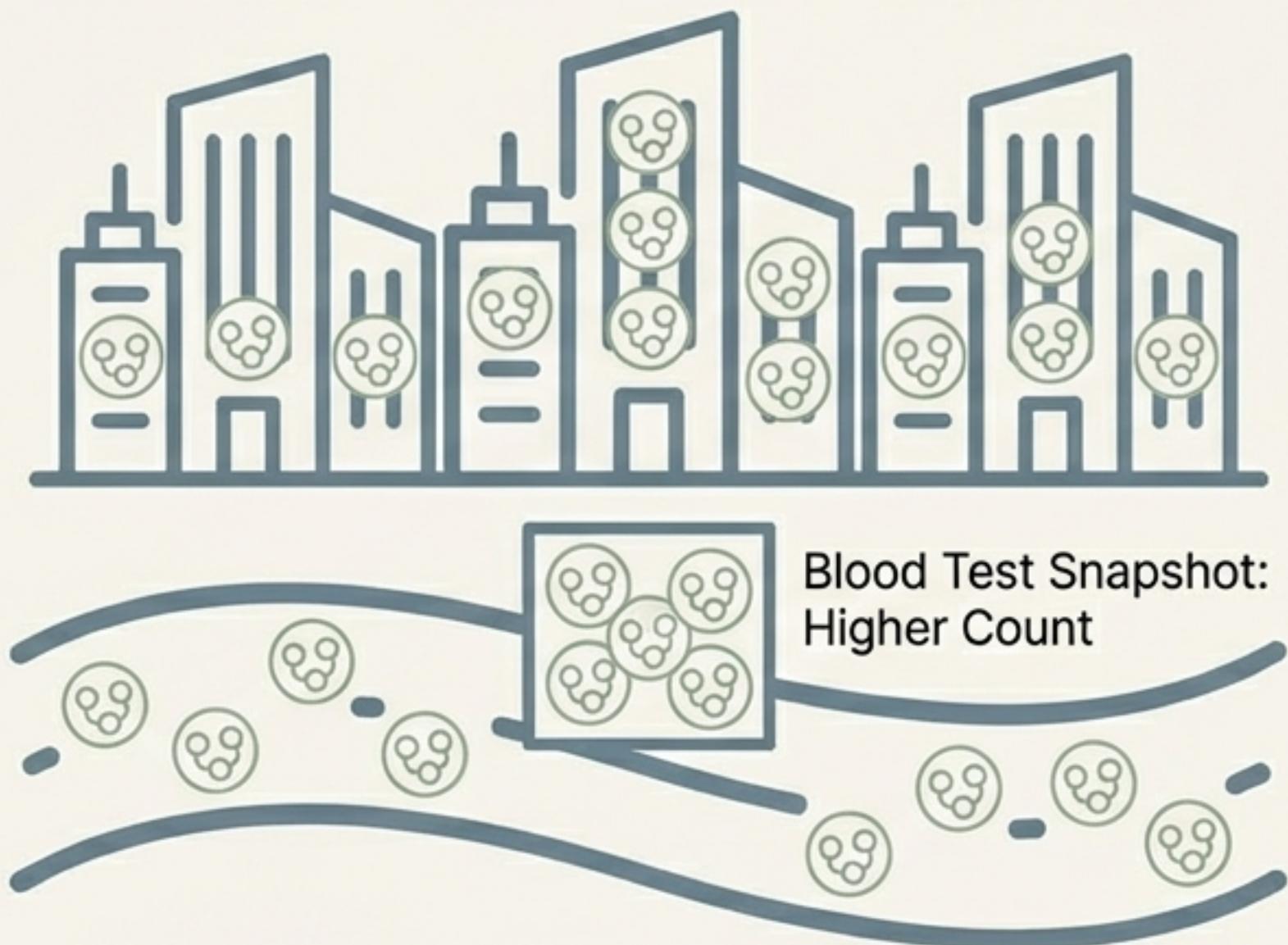
Bloodstream
(Highway)



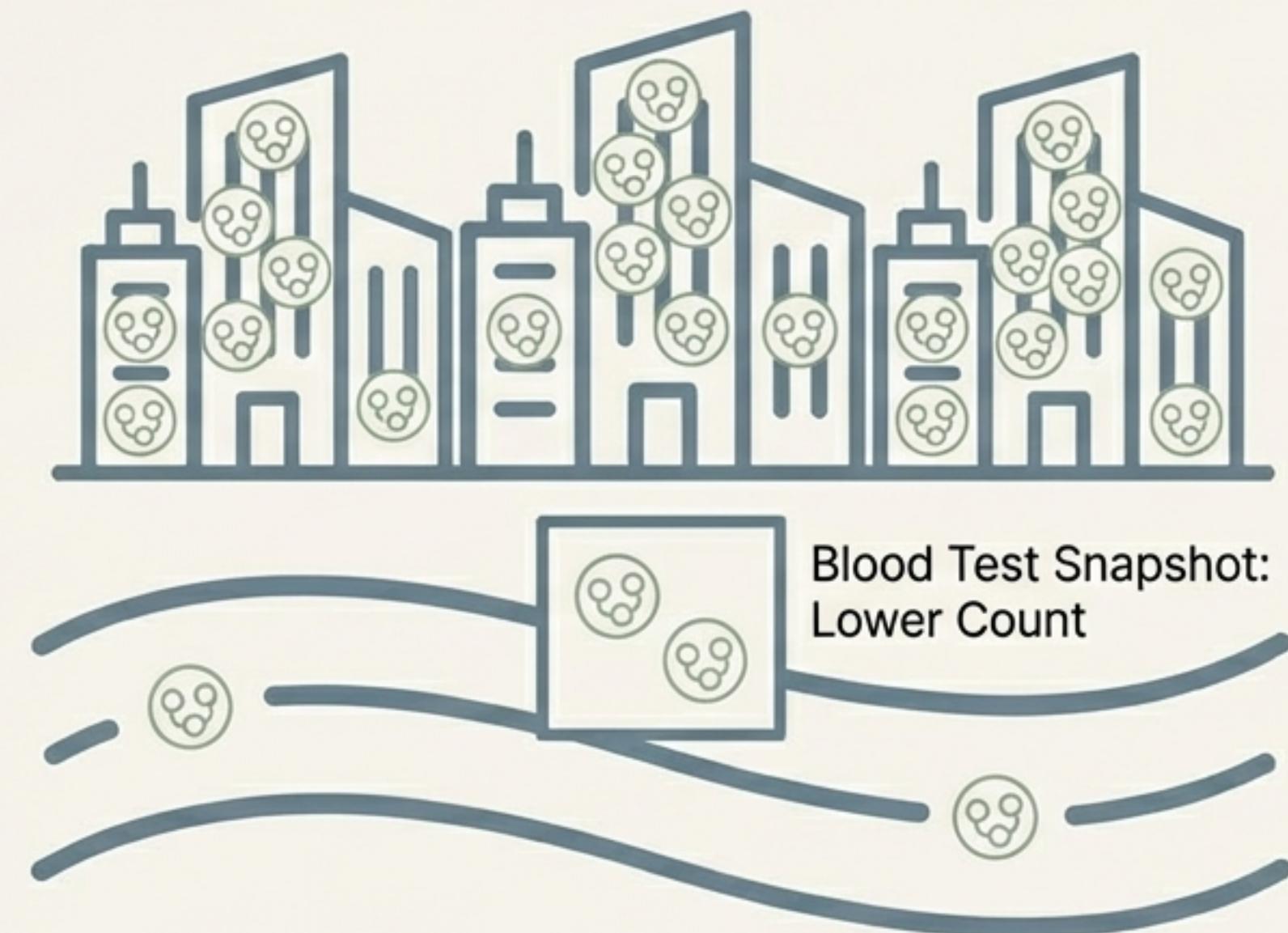
Tissues
(Destinations)

Your travelers simply spend more time at their destinations.

Typical Pattern



Duffy-Null Pattern



Because fewer of your neutrophils are “on the road” during a blood test, the count appears lower—even though your immune system is fully staffed and ready to work.

This pattern comes from your genetics.

The Duffy-null pattern occurs when you inherit two copies of the Duffy-null gene variant. This variant changes a protein on red blood cells, which in turn influences how neutrophils move between the bloodstream and tissues.

- This is a normal genetic variation, not a disease.
- It does not indicate a problem with your bone marrow or immune system.

This pattern was previously called “benign ethnic neutropenia,” a term that is now discouraged because it inaccurately links a normal genetic finding to ethnicity.

This pattern is not dangerous and does not cause symptoms.



Does it cause symptoms?

No. You will not experience infections, fevers, or mouth sores because of this pattern. Most people only discover it during a routine blood test.

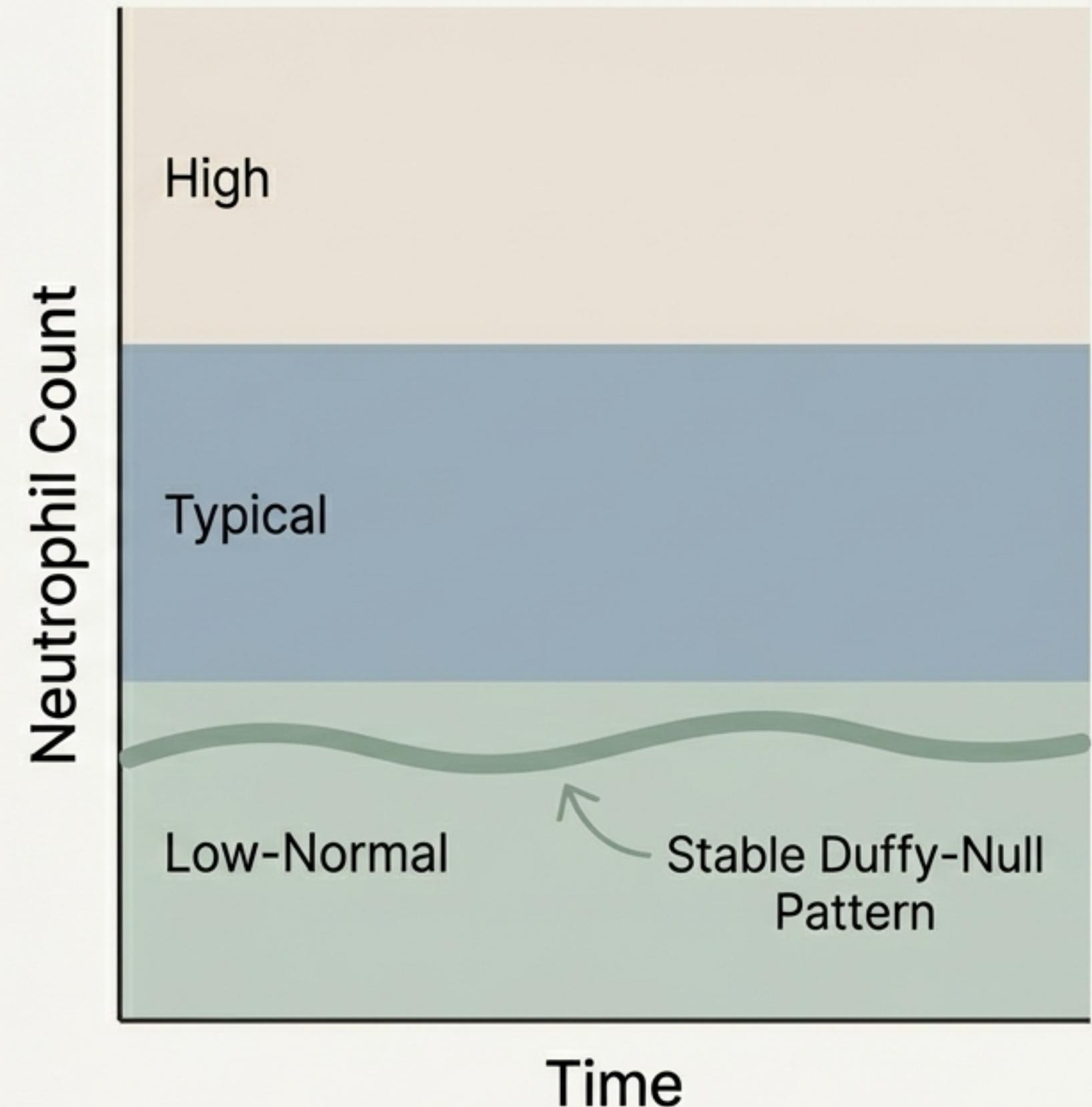


Is it associated with higher risk?

No. It does not increase your risk of infections or lead to long-term health problems. Your immune system functions normally.

Your neutrophil count is naturally lower, but it is stable.

A key feature of the Duffy-null pattern is stability. While neutrophil counts can **fluctuate slightly** in anyone, your baseline will typically stay in a steady, low-normal range over time. **This pattern does not progress** to a bone marrow condition or immune disorder.



No treatment or special monitoring is needed.

Because the Duffy-null pattern is a normal variation in how your immune system works, it does not require any medical intervention.

-  No medications or growth factors are necessary.
-  No special follow-up appointments are required for this pattern.
-  It is a lifelong, stable pattern that does not affect your health.

How your doctor evaluates this pattern

Your doctor looks at the full picture of your health. When your neutrophil count is consistently in a low but stable range and you have no symptoms of illness, it strongly supports the Duffy-null pattern. Once this pattern is recognized, no additional testing is typically needed.

Some people find it helpful to keep a note in their medical record or personal files so that unfamiliar providers understand their naturally lower baseline.

You can live a completely normal, active life.

This genetic pattern requires no changes to your lifestyle.



Activity & Diet

No restrictions.



Work & Travel

No limitations.



Blood Donation

Eligibility varies by region, but most centers accept donors with a stable, low-normal neutrophil count if they are otherwise healthy.

When should you contact your doctor?

You should contact your doctor for the same reasons anyone would. The Duffy-null pattern itself does not cause symptoms, but it's always important to pay attention to your body.

- **Contact your doctor if you develop:**
 -  Fever or chills
 -  Sores or other signs of a significant infection

Clarification: These symptoms are uncommon in this pattern, but they warrant medical attention in anyone, regardless of their baseline neutrophil count.

Key Takeaways: What Your Low Count Means



A Normal Genetic Pattern: Your neutrophil count is naturally lower but healthy.



Not a Disease: It does not increase infection risk or need treatment.



Stable Over Time: Your count typically stays in a consistent, low-normal range.



No Lifestyle Restrictions: You can live, work, and travel normally.



A Reassuring Evaluation: Doctors focus on your overall health and long-term stability, not just the number.