



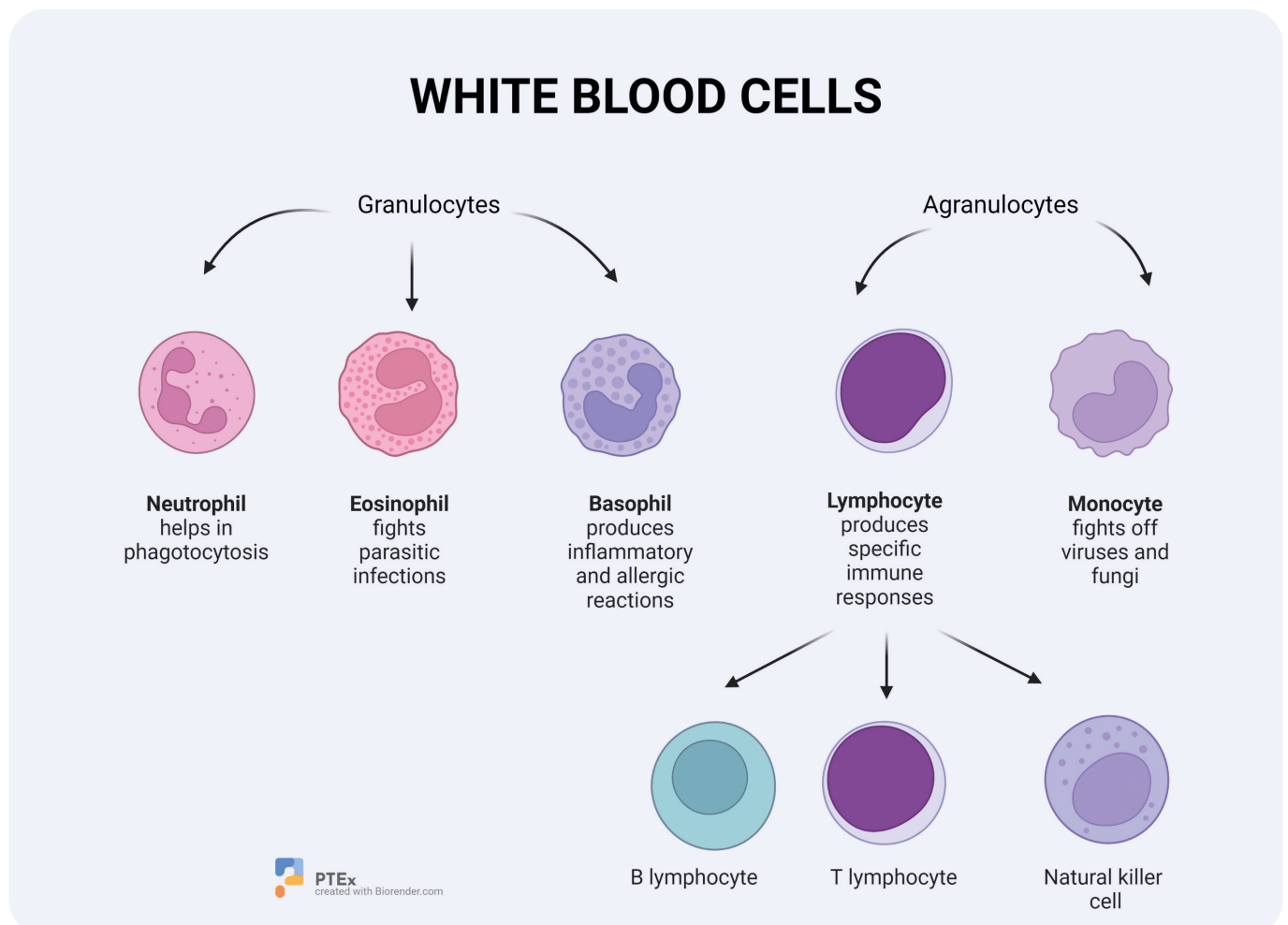
PATHOLOGY TESTS EXPLAINED

Information about pathology tests to help everyone take control of their health and make the right decisions about their care.

WHAT YOU SHOULD KNOW ABOUT YOUR WHITE BLOOD CELL COUNT & DIFFERENTIAL

A white blood cell (WBC) count and differential is used to screen for or diagnose an illness that affects your immune system. This could be an infection, allergy or inflammatory condition, or a cancer such as leukaemia or lymphoma. The test is also used to monitor the body's response to treatments such as radiation and chemotherapy that are known to affect white blood cells.

White blood cells are made in your bone marrow and released into the blood where they travel to the site of an infection or injury. Once there, they create inflammation as the start of the healing process. Levels of white blood cells drop back to normal when affected area is healed.



PTEx
created with Biorender.com



White blood cell types

There are five main types of white blood cells, each with different functions –neutrophils, eosinophils, basophils, lymphocytes (further classified as T cells, B cells, and Natural Killer cells) and monocytes. The white blood cell differential shows if these cells are present in normal proportion to one another, if one cell type is increased or decreased, or if there are any immature or abnormal cells.



What can your results tell you?

Result	Diagnosis
White cell count $4.0-11.0 \times 10^9/L$	This is the normal range for adults.
White blood cell count greater than $11.0 \times 10^9/L$ cells	Leukocytosis – when the white cell count is above the reference interval. Possible causes <ul style="list-style-type: none"> • Bacterial infections. • Inflammation or inflammatory conditions such as vasculitis, allergies, or rheumatoid arthritis. • Leukaemia, Hodgkin disease or myeloproliferative neoplasms. • Tissue damage such as burns, trauma, stress or surgery. • Cigarette smoking. • Pregnancy. • Certain drugs may increase your white blood cell count.
White blood cell levels of less than $3.5 \times 10^9/L$ cells	Leukopenia – when the white cell count is below the reference interval. Possible causes <ul style="list-style-type: none"> • Bone marrow deficiency or failure – due to infection or tumour. • Lymphoma. • Cancers that damage the bone marrow. • Chemotherapy, radiation therapy. • Autoimmune disorders - where the body attacks and destroys its own white blood cells. • Diseases of the immune system such as HIV. • Very severe bacterial infections. • Certain drugs that may lower your WBC.



What are reference intervals?

Your results will be compared to a set of numbers called reference intervals – sometimes called normal ranges. This is the range of test results considered 'normal' for the general population. If a result in your report is outside this range, it can be flagged as high (H) or low (L). This does not necessarily mean that anything is wrong and depends on your personal situation. Your results need to be interpreted by your doctor.



What if you have abnormal results?

A great many health conditions can affect the blood and interpreting the many variations in test results is complex. It's important that your doctor evaluate your results in relation to your medical history and that together you discuss what they mean for you personally.



Questions to ask your doctor

- Why does this test need to be done?
- Do I need to prepare (such as fast or avoid medications) for the sample collection?
- Will an abnormal result mean I need further tests?
- How could it change the course of my care?
- What will happen next, after the test?

For more detailed information on these and many other tests go to pathologytestsexplained.org.au



PATHOLOGY TESTS
EXPLAINED

www.pathologytestsexplained.org.au

Pathology Tests Explained is the primary national source of consumer information on pathology testing. Information is written and edited by practising pathologists and scientists, including leading experts. This ensures integrity and accuracy.

Pathology Tests Explained is managed by a consortium of medical and scientific organisations representing pathology practice in Australia. More details at: www.pathologytestsexplained.org.au/about



Please use this QR code to access more information

My Health Record

You'll find a direct link to the Pathology Tests Explained website embedded in the pathology results pages of your My Health Record.

Click on the link to find information about what your tests are investigating or measuring and what your results can tell your doctor.