Memorial Sloan Kettering Cancer Center

PATIENT & CAREGIVER EDUCATION

Facts About Blood and Blood Cells

This information explains the different parts of your blood and their functions.

Your blood carries oxygen and nutrients to all of the cells in your body. Blood cells also fight infection and control bleeding.

Most blood cells are made in your bone marrow. They are constantly being made and replaced. How long a blood cell lasts before being replaced is called its lifespan.

Your blood is made up of 4 parts: red blood cells, white blood cells, platelets, and plasma.

Parts of your blood

Red blood cells (erythrocytes)

Red blood cells carry oxygen from your lungs to your tissues. They also bring carbon dioxide back to your lungs.

Red blood cells make up almost half of your blood. The lifespan of a red blood cell is around 120 days.

White blood cells (leukocytes)

White blood cells fight infection and are an important part of your immune system. They make up a very small part of your total blood (less than 1%).

There are 3 types of white blood cells: granulocytes, monocytes, and lymphocytes. Each type has an important role.

- There are 3 types of granulocytes:
  - **Neutrophils** help fight bacterial and fungal infections.
  - **Basophils** are part of your body's immune response. Their exact function isn't well known.
  - **Eosinophils** help fight infections caused by parasites.
- Monocytes break down and remove foreign organisms and dying cells from your body.
- Lymphocytes make up your immune system.

White blood cells have a wide range of lifespans, from hours to years.

Platelets (thrombocytes)

Platelets are small parts of cells. Their main function is to control bleeding. They make up a very small part of your blood (less than 1%). The lifespan of platelets is about 9 to 12 days.

Plasma

Plasma is the pale-yellow liquid part of your blood that holds all of your blood cells. It makes up a little over half of your total blood.

Plasma helps move water, nutrients, minerals, medications, and hormones throughout your body. It also carries waste products to your kidneys. Then your kidneys filter out the waste products from your blood. Plasma is made up of water, protein, lipids (fats). It carries water, fat-soluble nutrients, and other substances to and from the different organs.

Resources

Johns Hopkins Medicine

www.hopkinsmedicine.org/health/wellness-and-prevention/facts-about-blood

This website has facts about blood, blood cells, and blood cell count.

American Red Cross

www.redcrossblood.org

The American Red Cross offers a variety of information about the different parts of blood and what blood cells do.

- **Function of Blood and Blood Cells:** www.redcrossblood.org/local-

homepage/news/article/function-of-blood-cells.html

- **Facts About Red Blood Cells:** www.redcrossblood.org/donate-blood/dlp/red-blood-cells.html
- **Facts About White Blood Cells:** www.redcrossblood.org/donate-blood/dlp/white-cells-and-granulocytes.html
- **Facts About Platelets:** www.redcrossblood.org/donate-blood/dlp/platelet-information.html
- **Facts About Plasma:** www.redcrossblood.org/donate-blood/dlp/plasma-information.html

If you have questions or concerns, contact your healthcare provider. A member of your care team will answer Monday through Friday from 9 a.m. to 5 p.m. Outside those hours, you can leave a message or talk with another MSK provider. There is always a doctor or nurse on call. If you're not sure how to reach your healthcare provider, call 212-639-2000.

For more resources, visit www.mskcc.org/pe to search our virtual library.

Facts About Blood and Blood Cells - Last updated on June 4, 2026
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