

# Leukocytes

Leukocytes

## Definition and classification

Leukocytosis is an '*Increased number of* ' leucocytes in a person's blood. It can be caused by a reactive (secondary) or malignant cause. According to the type of leukocyte, we recognize the following types of white line defects, which are also the causes of leukocytosis:

- **Neutrophilia** - increase in the absolute number of Neutrophils in the peripheral blood above the limit of  $7,5 \times 10^9/l$ .
- **Lymphocytosis** - an increase in the number of lymphocytes in the peripheral blood above the limit of  $4,5 \times 10^9/l$ .
- **Basophilia** - Increase in the number of Basophils in the peripheral blood above the limit of  $0,1 \times 10^9/l$ .
- **Monocytosis** - increase in the number of Monocytes in the peripheral blood above the limit of  $0,8 \times 10^9/l$ .
- **Eosinophils** - increase in the number of Eosinophils in the peripheral blood above the limit of  $0,25 \times 10^9/l$ .

## The causes of leukocytosis

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### Neutrophilia

Neutrophilia can be caused by a number of causes. These causes include:

- infections (bacterial, fungal, spirochetes and others),
- Inflammation (vasculitis and others),
- Physical exertion, pregnancy,
- Severe Metabolic acidosis (Diabetic ketoacidosis),
  - Smoking.

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### Lymphocytosis

Lymphocytosis is usually caused by an acute **Viral** infection or a **chronic** infection. Other various causes include:

- malignancies (leukemia and lymphoma),
- injuries,
- excessive physical activity,
- stress lymphocytosis (after myocardial infarction or in adrenaline lymphocytosis).

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### Basophilia

Most causes of basophilia are life-threatening, so early diagnosis and subsequent rapid treatment are important. These causes include:

- inflammatory disease (ulcerózní kolitida and others),
- Drugs (eg estrogens and others),
- irradiation,
- Hyperlipidemia.

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### Monocytosis

The causes of monocytosis also usually include life-threatening conditions, early diagnosis and subsequent rapid treatment is important. Such causes include:

- Infections (malaria, Trypanosominasis),
- Tuberculosis,
- Typhoid fever,

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- Hodgkin´s lymphoma,

- hemolytic anemia.

## Eosinophilia

Eosinophilia can be caused by:

- allergic reaction,
  - Parasitic disease,
  - Condition after infectious mononucleosis.

## Diagnosis

Leukocytosis is detected by a differential blood test

## References

### Related articles

- Neutropenia
- Lymphocytopenia
- Leukopenia

### External links

- Changes in the blood counts and hemocoagulation during pregnancy (<http://www.levret.cz/publikace/casopisy/mb/2007-14/?pdf=23>)

### References

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- DOBROTOVÁ, Miroslava, et al. *Hematológia a transfuziológia : učebnica*. 1. vydání. Praha : Grada ; Bratislava : Grada Slovakia, 2006. ISBN 80-8090-000-0.