Kurdistan Regional Government - Iraq
Ministry of Higher Education & Scientific Research
Salahaddin University - Erbil

Blood Smear

6th Lab of Microtechnique
2nd Semester
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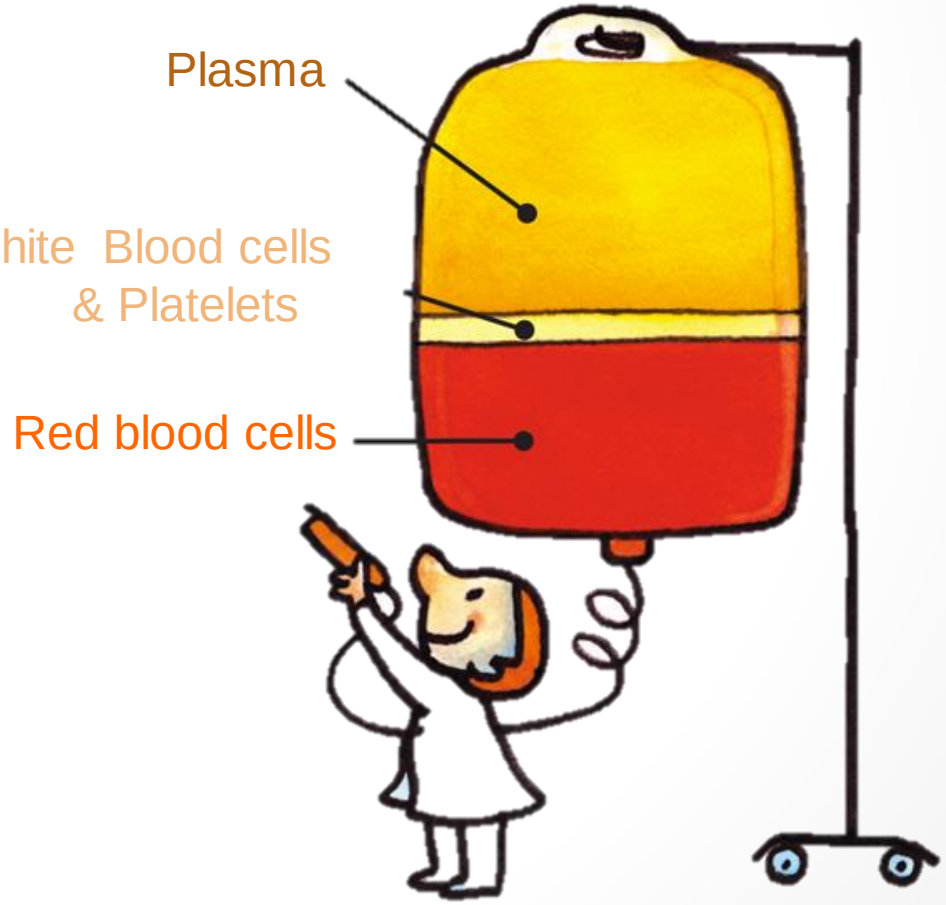
Overview

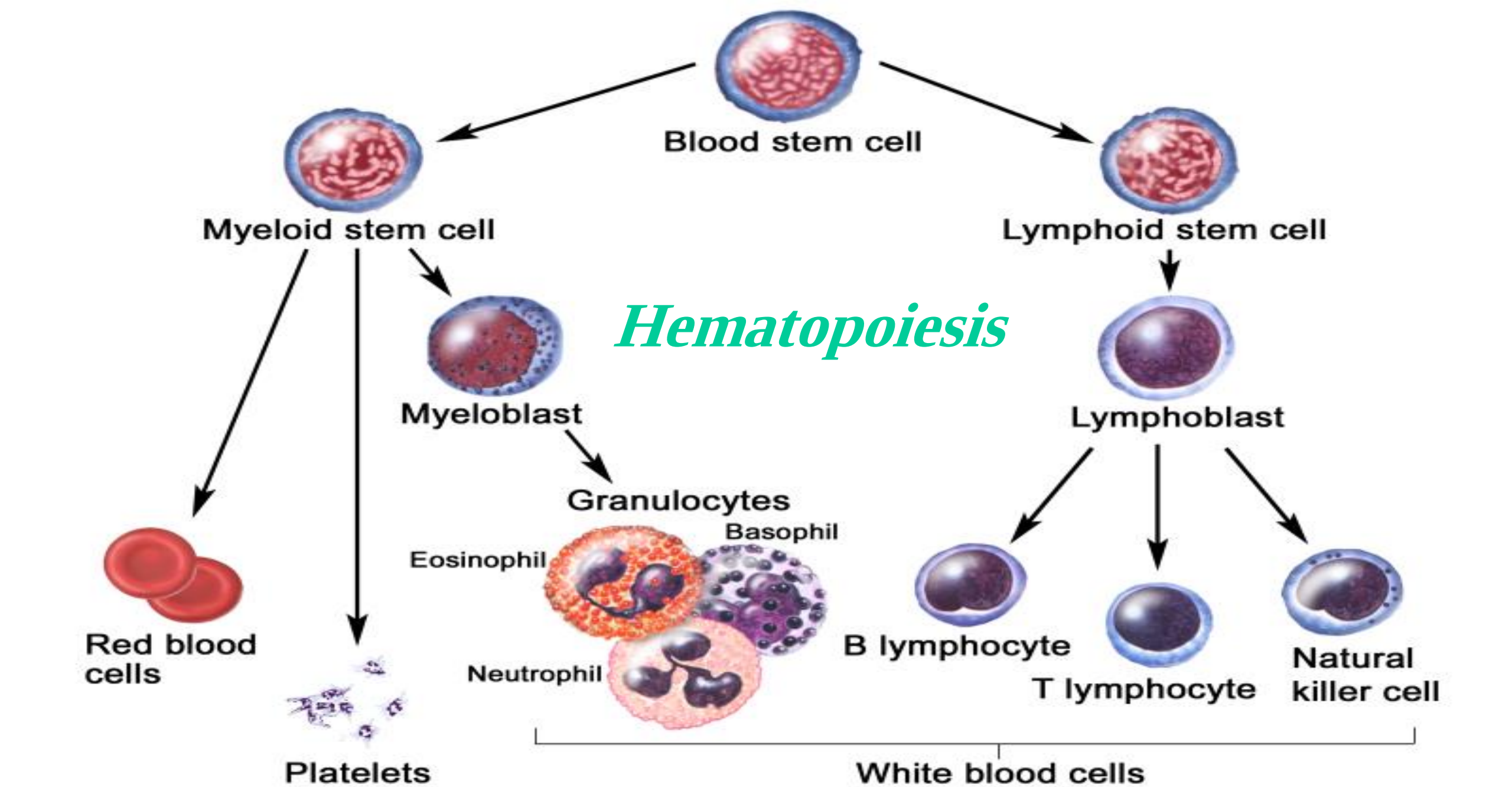
Blood smear or film is a drop of blood spread thinly onto a glass slide, then treated with a special stain and finally examined and evaluated under microscope.

This test is provides information on the number and shape of blood cells, which can help doctors diagnose blood disorders or other medical conditions.

- Blood circulates through our body and delivers essential substances like oxygen and nutrients to the body's cells and transports metabolic waste products away from those same cells.

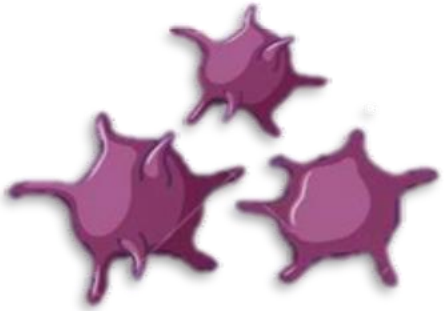
- Blood Components





Blood Cells Morphology

RBC



Platelet

Monocyte

Lymphocyte

Eosinophil

Neutrophil

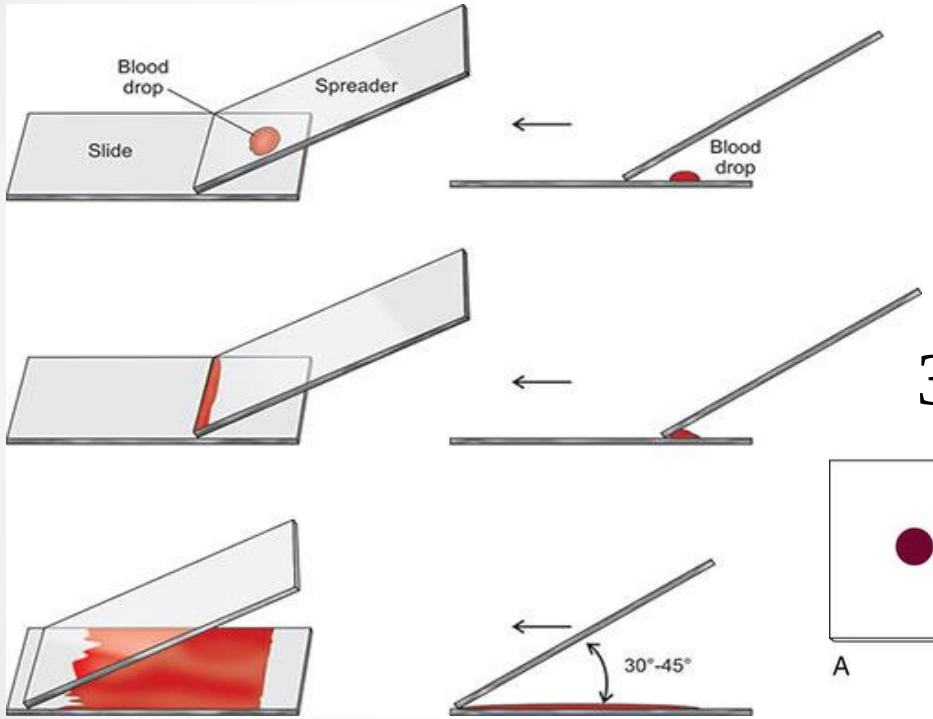
Basophil

The Aims of Blood Smear

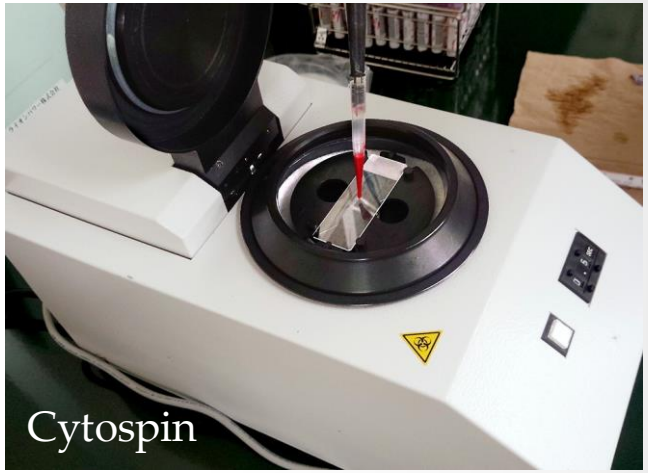
1) To look for parasites
2) Allows for the evaluation of red blood cells, white blood cells and platelets.
3) The blood smear is reviewed for morphologic changes in any of the cell populations, in order to detect any changes that give clues to abnormality or diseases.

Blood Smear Methods

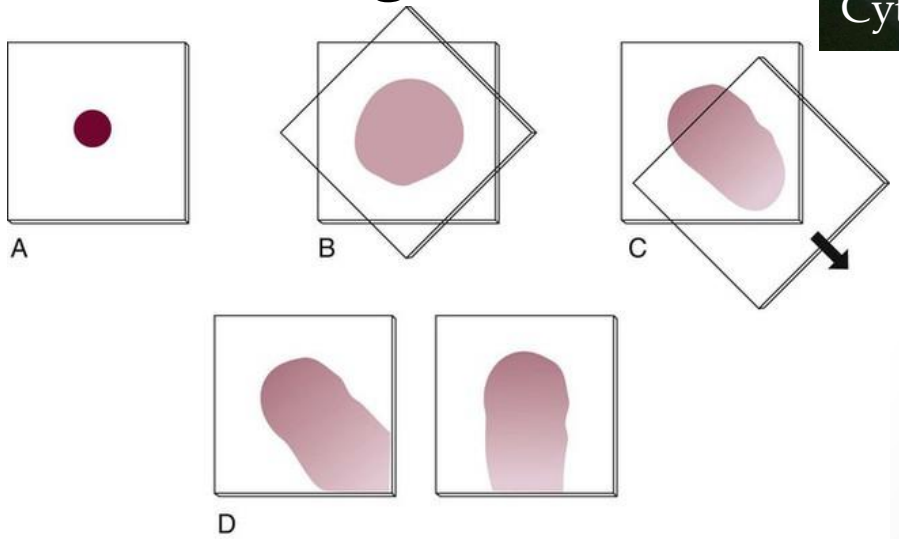
1. Slide method (push and pull)



2. Spin method



3. Cover glass method



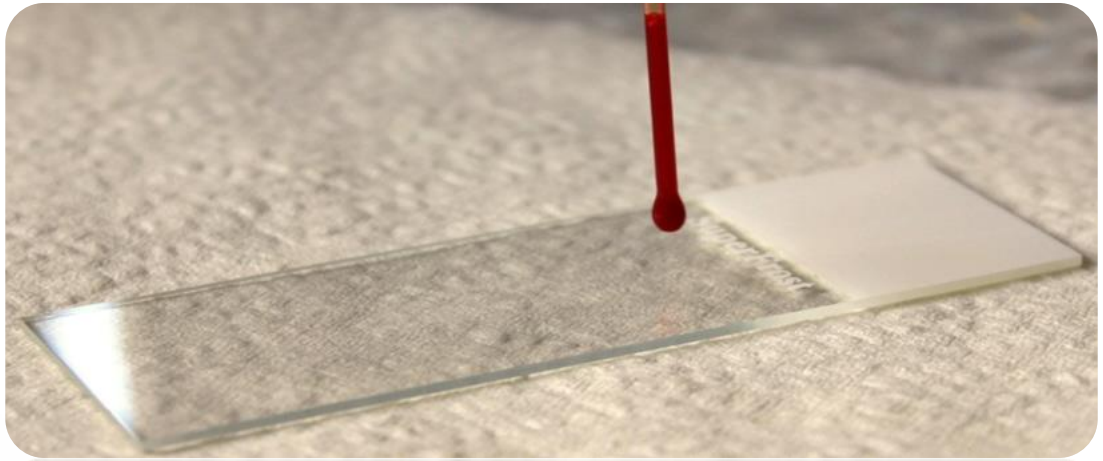
Blood Smear Preparation

Materials

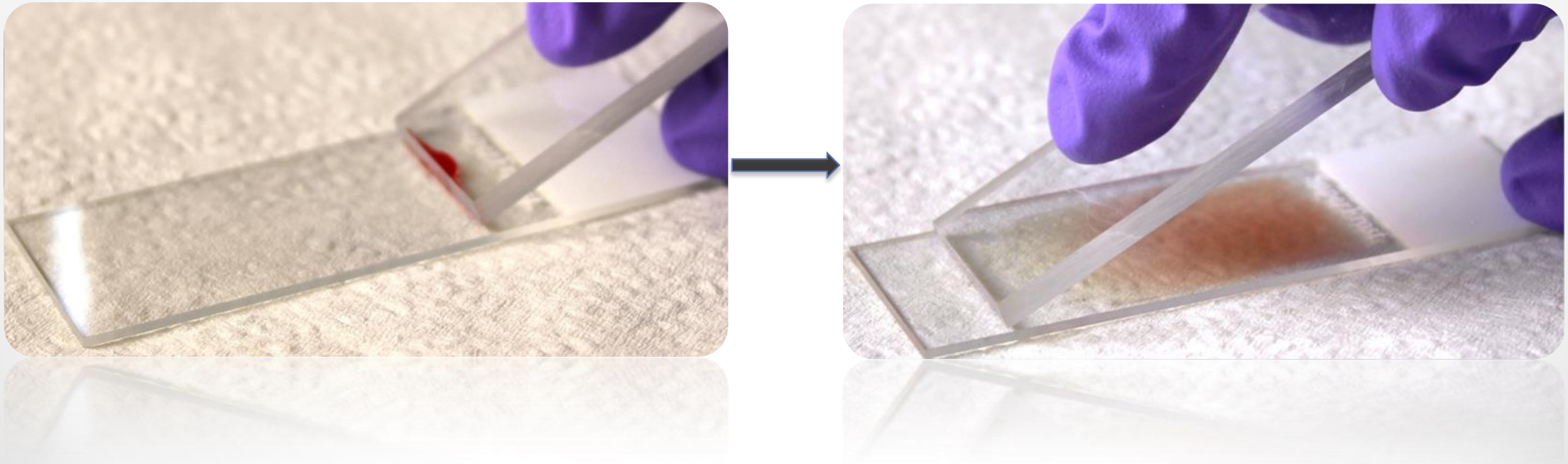
- Blood sample
- Capillary tubes or micropipette
- Slides
- Giemsa stain
- Microscope

Steps for Preparing Blood Smear

1) Blood sample collection
2) Place a small drop of blood near the end of one slide



3) With another clean slide spread the drop of blood smoothly and quickly.

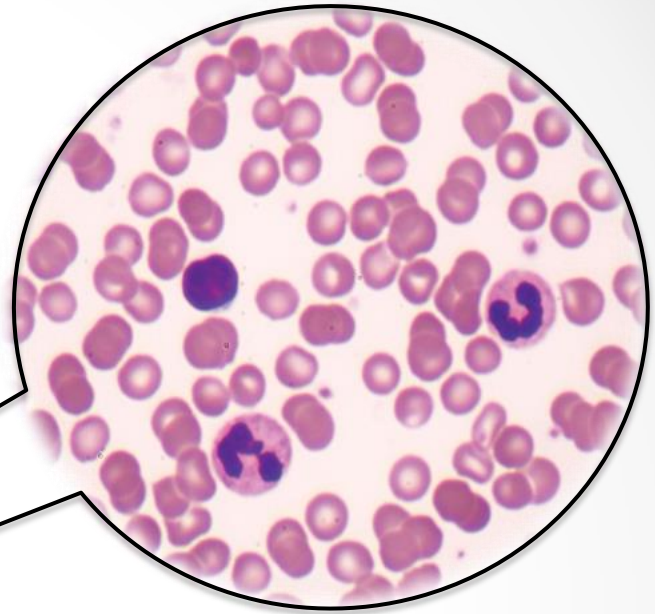


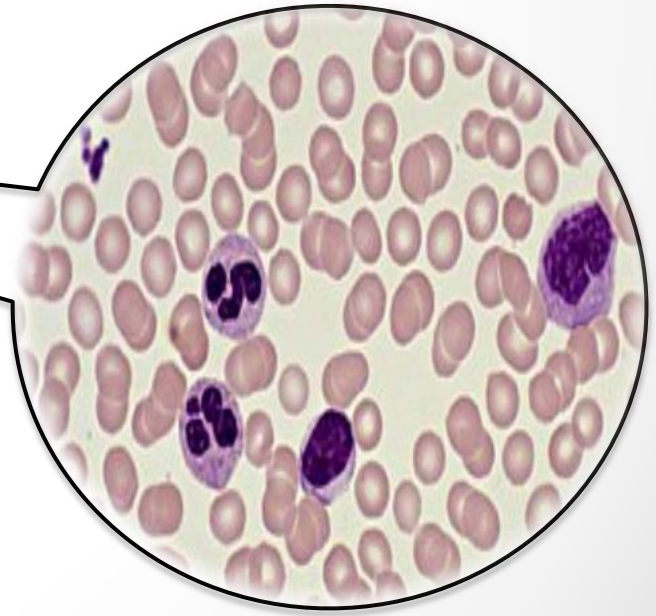
4) Let it to dry.

5) Place the smear in a container containing methanol for 2-3 minutes for fixation.

4) Staining by Giemsa or leishmanstain
Then wash by running tap water.

5) Examine under the microscope.





Biologic causes of a poor blood smear

Cold agglutinin

Lipemia

Rouleaux

Next Lab

Maceration and Squashing

For studying mitosis