

II - Staining the smear

A - PROCEDURE

- 1 - Cover the smear with 6 to 7 drops of WRIGHT STAIN and allow to stand for three minutes. This fixes the blood film.
- 2 - After three minutes, slowly add distilled or de-ionized water until the amount of water is equal to the amount of stain. Blow on the slide to mix the stain and water. A greenish metallic coating will be formed on the surface of the stain when the correct proportions have been reached.
- 3 - Allow this mixture to stand for three minutes.
- 4 - Flush the slide with water, taking care to float off the greenish coating and surplus stain.
- 5 - Dry the bottom surface of the slide with a paper towel or cloth.
- 6 - Air dry the top of the slide.

B - PRECAUTIONS

- 1 - Do not blot blood smear.

III - Results

- A - Erythrocytes - yellowish red
- B - Polymorphonuclears - dark purple nucleus, reddish lilac granules, pale pink cytoplasm
- C - Eosinophiles - blue nuclei, red to orange - red granules, blue cytoplasm
- D - Basophiles - purple to dark blue nucleus, dark purple granules (almost black)
- E - Lymphocytes - dark purple nuclei, sky blue cytoplasm
- F - Platelets - violet to purple granules

Make a detailed sketch of your blood

FOLLOWING ARE THE PROCEDURES FOR MAKING A GOOD BLOOD SMEAR, STAINING THE SMEAR AND IDENTIFYING THE VARIOUS KINDS OF BLOOD CELLS.

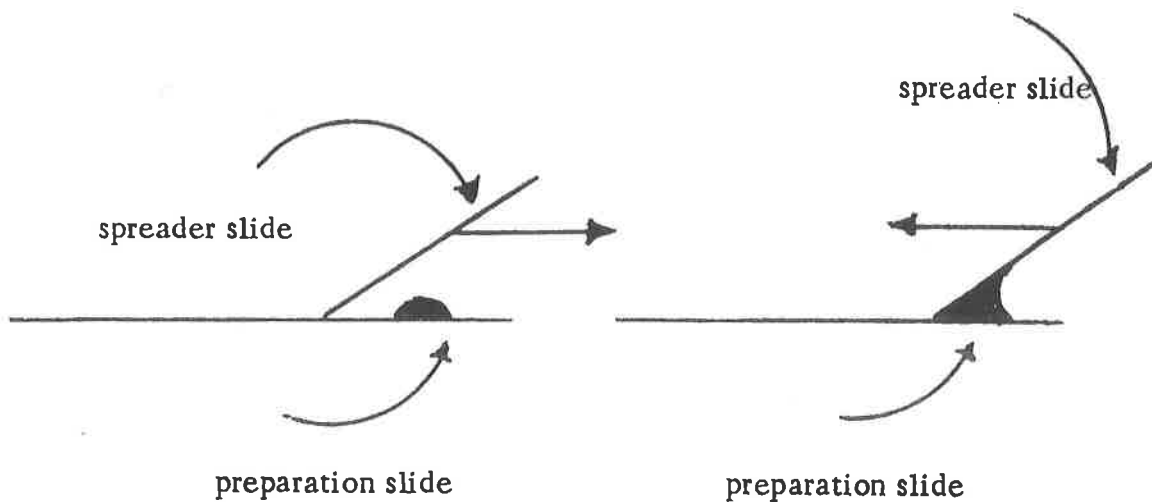
I - Making a blood smear

A - PRECAUTIONS

- 1 - Remove all traces of grease from new slides by cleaning in alcohol or soap and water.
- 2 - Slides must be thoroughly dry.
- 3 - Do not breathe on the unfixed slide to hasten drying as the breath may hemolyze the cells.

B - PROCEDURE

- 1 - Prepare to draw blood.
 - a - Swing the non writing hand vigorously several times.
 - b - Scrub the middle finger of the non writing hand with the INDIVIDUALIZED SATURATED ALCOHOL PAD and allow to air dry. DO NOT CONTAMINATE THIS FINGER.
 - c - Using the INDIVIDUAL STERILE LANCET, puncture the tip of the finger with a firm quick stroke.
 - d - Wipe away the first drop of blood with the alcohol pad. (This first drop is primarily serum.)
 - e - Place the second drop of blood near the end of a clean dry slide (holding it by its edges to prevent fingerprints.)
 - f - Rewipe the punctured finger and dispose of the alcohol pad.
- 2 - Take a new slide, (spreader slide) and place it at approximately a thirty degree angle to the first slide, (preparation slide).



- 3 - Bring the SPREADER SLIDE back to the drop of blood until the blood flows the length of the short edge of the SPREADER SLIDE by capillary action.
- 4 - With a smooth rapid motion push the SPREADER SLIDE the length of the PREPARATION SLIDE maintaining the proper angle.
- 5 - Allow to air dry.

9. Put enough Wright's stain on the slide to cover the smear but not overflow the slide. Count the number of drops of stain that are used.
10. After 2-3 minutes, add an equal volume of distilled water to the stain and let the slide stand for 4 minutes. From time to time, gently blow on the liquid to mix the water and stain.
11. Flood the slide with distilled water until the blood smear appears light blue.
12. Tilt the slide to pour off the water, and let the slide dry in the air.
13. Examine the blood smear with low-power magnification, and locate an area where the blood cells are well distributed. Observe these cells, using high-power magnification and then with an oil immersion objective if one is available.

PROCEDURE A—TYPES OF BLOOD CELLS

1. Review the sections entitled "Red Blood Cells," "White Blood Cells," and "Blood Platelets" in chapter 12 of the textbook.
2. Complete Part A of Laboratory Report 32.

3. Refer to figures 12.6-12.10 in the textbook and figure 32.2 as an aid in identifying the various types of blood cells. Use the prepared slide of blood and locate each of the following:

red blood cell (erythrocyte)

white blood cell (leukocyte)

granulocytes

neutrophil

eosinophil

basophil

agranulocytes

lymphocyte

monocyte

platelet (thrombocyte)

4. In Part B of the laboratory report, prepare sketches of single blood cells to illustrate each type. Pay particular attention to relative size, nuclear shape, and color of granules in the cytoplasm (if present).

Figure 32.2 Blood cells illustrating some of the numerous variations of each type.

