

Diploma in Pharmacy 1st Year

Human Anatomy & Physiology Practical

To determine the WBC count of blood.

Aim:

To determine the WBC count of blood.

Reference :

Dr. Gupta G.D , Dr. Sharma Shailesh , Dr. Sharma Rahul Kumar ,“Practical Manual of Human Anatomy and Physiology” Published by Nirali Prakashan , Pg.No 71 - 73

Material and Apparatus Required

Neubauer chamber, W.B.C pipette, cover slip, WBC diluting fluid, Needle, Spirit, cotton.

Theory :

WBCs fight against external organisms. They are described according to their characteristics, morphology, and staining property. They are granulocytes and agranulocytes corresponding to the presence or absence of granules (lysosomes). The normal number of WBCs in the blood is 4,500 to 11,000 WBCs per microliter (4.5 to $11.0 \times 10^9/L$).

Procedure

- 1) The fingertip should be sterilised with the cotton plug soaked in 70% alcohol and should be dried.
- 2) A bold prick should be done to have free flow of blood and the blood should be extracted out in a WBC pipette upto 0.5 marks.
- 3) The WBC pipette should be dipped in WBC diluting fluid upto 11 marks and the pipette should be rotated equally in the hands to mix the solution well by swirling.
- 4) The haemocytometer should be taken and placed on the flat surface of the work bench.

- 5) The cover slip should be placed on the counting chamber
- 6) A small drop of diluted blood should be allowed to be hanging from the pipette, to swipe into the counting chamber by capillary action. There should be no air bubble and no over filling beyond the ruled area.
- 7) The counting chamber should be left on the bench for 3 minute to allow the 7 cells to settle.
- 8) The cells should be observed by placing the counting chamber on the mechanical stage of the microscope.
- 9) One of the corner squares of the counting chamber should be in focus and the white cells should be counted schematically, starting from the upper left small square of each square.
- 10) The count should be repeated in the entire four corners and of the chamber.
- 11) The margin rules should be applied and then the cells lying on the two adjacent margins should be counted and those on the other two margins should be discarded..

Date Analysis _____

No. of cells x Dilution factor x Depth factor

Area count

Where, Dilution factor = 20, Depth factor =10, Area count=4

Result: The number of WBC present is 1ml of blood sample is_____.