

Diploma in Pharmacy 1st Year

Human Anatomy & Physiology Practical

To report ESR of your blood.

Aim:

To report ESR of your 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 60 - 62

Theory :

Erythrocyte Sedimentation Rate (ESR)

The ESR is the rate at which erythrocytes settle down or produce a millimetre of clear plasma at the top of a vertical column in an hour. In this procedure, the blood is mixed with anticoagulant and is allowed to stand in a vertical tube.

There are two commonly used methods for calculating the ESR that are:

- 1) Westergren's Method: This tube should be opened at both ends and labelled in mm up to the 20mm mark.
- 2) Wintrobe's Method: This tube should be opened at the top and closed at the bottom and labelled in mm up to the 100mm mark.

The ESR can be used to diagnose a wide range of illnesses and physiological problems.

Increased Sedimentation

Tuberculosis, cancer, rheumatic fever anaemia, menstruation, pregnancy and Jokaemia.

Decreased ESR

Congestive heart failure, polycythaemia, congenital diseases.

Normal Range (ESR)

Method	Men (mm/hour)	Women (mm/hour]
Westergren	0-15mm	0-20mm
Wintrobe	0-9mm	0-20mm

Procedure

- 1) Anticoagulant solution (1/5 of blood), ie, oxalate or citrate should be taken in a clean dry vial
- 2) Then two ce of blood should be extracted out by vein puncture
- 3) The blood should be mixed properly with anticoagulant solution.
- 4) Then the blood should be sucked into Westergren tube upto 200 mark.
- 5) should be placed in the stand.
- 6) The Westergern tube should be held vertically in the stand.
- 7) The reading should be note after one hour.

Result:

Patient's Name:

Age:

Sex:

ESR Value:

Dated: