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## Diploma in Pharmacy 1st Year Human Anatomy & Physiology Experiment

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)	m/hour) Women (mm/hour]	
Westergren	o-15mm	o-20mm	
Wintrobe	o-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:**

Age:

Sex:

ESR Value:

Dated:



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