

1. PURPOSE

- 1.1 To describe how to perform a platelet count estimation on a peripheral blood smear.

2. SCOPE

- 2.1 This SOP applies to all haematology staff.
In certain conditions, the automated cell analyser cannot measure an accurate platelet count. Manual platelet estimation should be done under the following circumstances:

2.1.1 False low platelet count due to large or giant platelets – large platelets > 1/3 of the diameter of a normal red cell and giant platelets > the size of a normal red cell.

2.1.2 False high platelet count due to extreme microcytosis or a significant number of red cell fragments.

Platelet morphology variation may be seen in infiltrative diseases of the bone marrow and large platelets may be seen in any disorder associated with increased platelet turnover such as ITP, excessive bleeding or as part of the overall immune response to an inflammatory condition etc.

3. PROCEDURE

- 3.1 Make a manual preparation of a peripheral blood smear and stain.

4. PLATELET ESTIMATION

- 4.1 Use an area on the slide where the erythrocytes touch one another without overlapping each other.
4.2 Count the number of platelets in 10 fields using the 100X magnification..
4.3 Calculate the average number of platelets per field.
4.4 Multiply the calculated average platelets per field by 20.

5. CALCULATION FORMULAE

$$\frac{\text{Total \# of platelets counted}}{10} \times \frac{20}{1} = \text{platelet estimation} \times 10^9 / \text{L}$$

Where

10 = number of fields counted, 20 = conversion factor

6. REFERENCES