**Model SOP**

**Standard Operating Procedure**

**Name of the facility / activity : Haemoglobin Estimation of Blood Donor by Copper Sulphate method**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **SOP no.**  | **Effective Date** | **Pages** | **Prepared by**  | **Authorised by**  |
| 1.3.2 | 27-11-2000 | 3 |  |  |
| **Version** | **Review Period** | **Date of Review** | **Reviewed by** | **Number of copies** |
| VI | 2 years | 01-01-2015 |  | 10 |
| **LOCATION** : Donor registration room. |
| **SUBJECT** : Qualifying Test for Blood Donation |
| **Function** : Method of estimation of Donor’s Haemoglobin by **SP. GRAVITY METHOD**  **USING CuSO4SOLUTION** |
| **DISTRIBUTION**: Lab Technician  Master file |

1. **Scope of APPLICATION:**

The donors with Haemoglobin levels above 12.5 gm% are only suitable for blood donation.

1. **RESPONSIBLITY:**

The Lab technician is responsible for determining the haemoglobin of blood donor by CUSO4 method.

1. **Material Required**
* Coplin jar.
* Disposable lancet.
* CuSO4 solution (specific gravity 1053).
* Sterile cotton swab with spirit.
* Covered dustbin.
1. **Procedure**
	* 1. Take the solution in a jar.
		2. Clean the donor’s finger tip with sterile spirit swab and let it dry.
		3. Puncture the skin with a sterile, disposable lancet and allow blood to flow freely.
		4. Allow a drop of blood to fall from a height of one cm. above the surface of solution or make a drop in a automated pipette tip and let it fall from a from a height of one cm above the surface of solution.

***Observation and Interpretation***

* If drop is of same sp. Gravity it becomes stationary for 10-15 secs. And then falls
(12.5 gm%).
* If drop is heavier it continues to fall during 10-15 secs. Interval (12.5 gm%).
* If the drop is lighter it rises initially to top and then beginning to sink immediately afterwards (<12.5 gm%).

***Source of Error***

1. If the finger is pressed to squeeze the blood, a high reading may be obtained.
2. Inaccurate calibration of pipette may introduce the error.

*Most of the errors are human errors and can be introduced by practical training and
skills.*

***Advantages***

* Rapid and economical and uses only a drop of blood
* Can be used, for mass screening as in mobile camps.

The CUSO4 sol. Cleanses itself after each test and the encased drop settles to bottom as the precipitate*.*

***Disadvantages***

Many donors with normal Hb levels will have abnormal results thus causes unnecessary loss of healthy donors.

* + 1. **Documentation:**

Enter the haemoglobin level in the donor card as well as donor haemoglobin register.

* + 1. **References:**
1. Technical Manual, 11th ed., American Associating of Blood Banks, 1993.
2. Technical Manual, 15th ed., American Associating of Blood Banks, 2005.
3. Donor room policies and procedures ........... AABB publication.
	* 1. **END OF DOCUMENT**