# Haemoglobin Color Scale: Starter Pack & Refills

#### First Let us Analyze Why Hb-Testing is Important:

- Key Anemia / Malnourishment / Undernourishment Indicator.
- Hb-Testing is mandatory for Blood Donor's Screening for Anemia
- Haemoglobin Testing is basis for "<u>Janani Suraksha Yojana</u>", "Janani Shishu Suraksha Karyakaram" of Govt. of India by NHM (National Health Mission) / AYUSH: Indian System of Medicines, WHO, NGO & Pharmaceutical Companies for conducting Hb-Camps etc...
- Iron-folic acid supplements are meant to be distributed under the National Nutritional Anaemia Control Programme and the Weekly Iron and Folic Acid Supplementation (WIFAS) programme, an initiative introduced in 2013 to reduce adolescent anaemia, estimated to affect more than half of all adolescent girls and just under one in three adolescent boys.

### **Options Available**

- 1. Dr. Talquist Method
- 2. Sahli's Method
- 3. Copper Sulphate Method
- 4. Haemoglobinocyanide / Drabkin's Method
- 5. "HAEMOCHECK " Haemoglobin Color Scale (Color Matching Method)

### 1. Dr. Tallquist Method

- Developed in 1960
- Ordinary Filter Paper Method
- No correlation with Laboratory report
- Not recommended and Obsolete.
- Only used for Academic purposes.

#### 2. Sahli's Method

- Uses N/10 HCL as reagent
- Color comparison method
- But Once Blood drops get in contact of N/10-Hcl, the Color falls very fast
- Hb (red Color) + HCL = Hematin (which is a Colorless molecule)
- Hence, not recommended for Field Testing as LOW correlation with laboratory report.
- Also, this Method need trained Technical Staffs.

#### 3. Copper Sulphate Method

- Mostly used by Blood Banks for HB estimation during Blood Donation Camps for Blood Donors' Screening.
- ☐ Uses Copper Sulphate solution of particular molarity/ Specific Gravity.
- Molarity/ Specific Gravity is difficult to maintain in CuSO4 as it falls very fast being Unstable Liquid.
- ☐ It needs mostly Trained Technical Staff.
- Not recommended for Field Screening of Anemic Patients BUT advised for replacement With "Color Scale Method" or, Digital for Donors' Selection.

### Haemoglobinocyanide/ Drabkin's Method

- ✓ Gold Standard for Hb Testing
- ✓ Need Fully equipped Laboratory Setting
- ✓ Not suitable for field level testing.
- √ Very high operational Cost.
- ✓ Fully trained Staffs required and time taking.

#### 5. Haemoglobin Color Scale

- \* Developed by Dr. Louis, a great Scientist of UK.
- Commercialized in 2005
- It is has full correlation with Haemoglobinocyanide / Drabkin's Method
- Very Good for Field Level Haemoglobin Testing
- Based on Color matching on the strip WHICH can be done by ANY untrained staff.

### Advantage to Medical Fraternity: DHS/NHM & Pharmaceutical Companies - "HAEMOCHECK"

- "HAEMOCHECK " Haemoglobin Color scale can be used in CAMPS under Field conditions by all Field Staffs.
- ANMs, ASHA Workers, FHW'S (Female Health Workers), and PHC,CHC & Sub- centers, NGO, Blood Banks, Gynecologist for rapid estimation of HB.
- Anganwadi's , Balwadi's, Panchayat's and Pharmaceutical Companies also.

#### Validations:

- ✓ HCS: Haemoglobin Color Scales has been validated by various independent International Research Bodies, Reputed Laboratories and sensitivity has been established.
- ✓ Various publications have certified the efficacy of HCS and results correlate with Hemglobincyanide / Drabkin's Method
- ✓ Ref. Clin Lab Haematol, 2004, Aug.; 26(4):253 8
- √ Vox Sang.2001 Jan;80(1):28 33.
- ✓ Evaluation of Kits and Testimonials available on demand.
- ✓ ISO 9001: 2015, CE & WHO- GMP Certified Company.

### "HAEMOCHECK " enables Haemoglobin testing in Field

- It is a simple device for estimating of Haemoglobin.
- The kit consists of a booklet containing a set of six shades of red and a pack of special absorbent test-strips.
- The shades represent a range of Haemoglobin values from 4-14 g/dl. By matching the color of a drop of blood (fresh capillary blood) on a test –strip with one of the shades of red, you can see if the blood is Anemic and, if so, the severity of Anemia in clinical terms.
- Ideally suited for testing in your clinic.
- Highly accurate and precise results comparable with the best Laboratory methods.
- Used by various international Agencies for field survey and testing.

### "HAEMOCHECK" – Using the Scale:

- Obtain free flowing drop of blood by finger prick (skin puncture)
- Touch the blood to the one end of the "HAEMOCHECK" Strip.
- ➤ Wait about 30 seconds to one Minute and read results by matching the best color on the "HAEMOCHECK " Color Scale Shade Card.
- ➤ "HAEMOCHECK " is WHO-GMP Certified and ISO 9001:2015 Certified Company.

## "HAEMOCHECK " Scale reading:WHO -Reference

- 14g/dl => Healthy.
- 12 g/dl, or,> => Not Anemic
- 8- 11 g/dl => Mild to Moderate Anemic
- 6-7 g/dl => Marked Anemic
- 4-5 g/dl => Severe Anemic
- <than 4 g/dl => Critically Anemic.

### "HAEMOCHECK"

- Haemoglobin Color Scale for Anemia diagnosis:
- Anemia is a major public health problem, in our country. Most of the cases are diagnosed clinically. This is inaccurate and the "Haemoglobin Color scale" (HCS) has been developed as an inexpensive, simple alternative for assessing Anemia.
- \*Laboratory and community studies have assessed its Diagnostic accuracy.
   The "Haemoglobin color scale" has been developed as a simple, inexpensive clinical device for diagnosing Anemia in Field Condition, when laboratory based Haemoglobinometry is not available.
- \*In an initial validation study at several Health Centers, Color Scale readings were compared with measurements of Haemoglobin by the laboratory. This showed the Scale to have 95-97% sensitivity in identifying whether Anemia was present or not. In addition, when present, the degree of Anemia was correctly classified in Clinical Terms as Mild, Moderate or, Severe.

### "HAEMOCHECK"

#### Development and use of the Haemoglobin Color scale:

Haemoglobin Color Scale (HCS) was first developed by great Scientist Dr. Luis, UK for RAPID estimating of Haemoglobin on spot under Field condition in few minutes where there was no facility of Laboratory with higher degree of Precision and Accuracy.

The Haemoglobin color scale (HCS) is a simple, rapid and cheap method for estimating Haemoglobin concentration with a finger prick blood sample, has been developed for use in resource-poor settings where there is no laboratory.

- The method relies on comparing the Color of a drop of Blood absorbed onto Blood absorbent Pad called – Strips and Color of Blood is matched with a pack of six shades of standard colors on a laminated and Validated Shade Card, varying from pink to dark red.
- These colors correspond to Haemoglobin concentration levels of 4, 6, 8, 10, 12, and 14 g/dl. Intermediate shades can be identified, allowing Haemoglobin levels to be judged to 1 g/dl. This is the only method currently available that is affordable for Haemoglobin Testing in Field Conditions on Spot without use of any Chemicals at widespread Primary Health Centers- PHC/ District Health Centers-DHC, Nursing Homes, Blood Banks for mass screening of Donor Selections and by any Medical Practitioners at their Clinics with ease and accuracy and also by NGO..

### "HAEMOCHECK"

- The "Haemoglobin Color Scale"-(HCS) is proposed as a replacement for the Copper Sulphate (CuS04)-Method for Blood Transfusion Donors' selection. This method showed an acceptable level of precision and accuracy for use as a reliable screening tool to diagnose Anemia in patients and also for Blood Donor Screening → As per various Research Reports.
- Not only this but "Haemoglobin Color Scale" can be used by all Medical practitioners, NGO, NHM, AYUSH Field Workers and Pharmaceuticals Field Staffs for "Screening of ANAEMIA" as a precise tool for estimating Haemoglobin at their clinics & Nursing Homes for Pregnant Women, Children where drawing of Blood is not easy.

#### Haemoglobin Color Scale -Kit



### Thanks & Regards

- Honorable Health Minister.
- Director NHM, DHS, H&FW, RCH.
- Director- AYUSH: Indian System of Medicine.
- Principal Secretaries: Health & FW
- In-charge of Blood Banks, CMOs, CDHOs, CMHOs, CS.....
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