



## Study to compare Correlation between Digital Hemoglobin Meter and Hematology Analyzer in Hemoglobin Measurement

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----- (Medical equipment's description report) -----

### 1. INTRODUCTION

#### Description of the Device Dolphin Digital Hemoglobin Meter

Haemoglobin measurement is widely performed in Blood bank [1] and screening, as Anemia is major health concern in India [2]. Different methods use for haemoglobin estimation like copper sulphate gravimetric method, Hemoglobin colour scale, HICN method, Automated Hematology analyzer, point of care haemoglobin meter etc.



Figure 1.1 DH Meter

## 2. MATERIAL AND METHOD

Study was conducted in Ahmedabad red-cross society district branch- Ahmedabad. A total 183 EDTA samples run simultaneous both on Dolphin Hemoglobin meter and ERMA PEC 210 Hematology analyzer.

**Table 2.1 Parameters for analyzer**

<b>Regression line equation:</b> $Y=0.947X+0.693$	<b>Correlation coefficient: <math>r = 0.9837</math></b> <b>Sensitivity :</b> More than 90% <b>Specificity :</b> More than 90% <b>95% limit of agreement range: -0.8 to + 0.76</b>
<b>RESULT :</b> A lot of 183 samples run both on Dolphin Hemoglobin meter and ERMA PEC 210 Hematology analyzer	<b>RESULT :</b> $R^2=0.983$ ; SLOPE : 0.947

## 3. RESULTS & DISCUSSION

The correlation coefficient  $r$  is 0.983, slope: 0.947 which is very good and indicate very good correlation between Dolphin haemoglobin meter and Hematology analyzer.

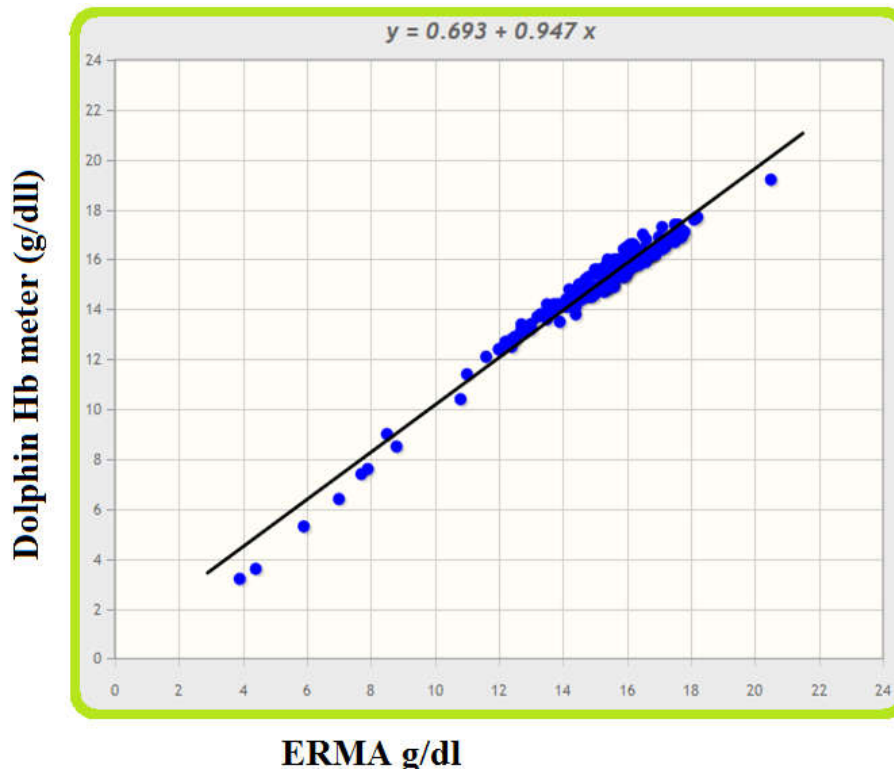


Figure 3.1 Correlation between DH meter and Hemtology analyzer

Many different methods use for haemoglobin estimation. A method is if valid, quick, easy to operate, patient friendly and cost effective is always widely accept [3]. But before adopting any new technology like POC it is necessary to validate [4] Point of care equipment like Dolphin digital haemoglobin meter is very useful , but to maintain high quality of result care should be taken like as sample collection by finger prick ,squeezing of finger should avoid, first drop of blood should wipe out and regular cleaning of equipment[5].

#### 4. CONCLUSION

Dolphin digital haemoglobin meter is having very good correlation with Hematology analyzer in Hemoglobin estimation. Dolphin haemoglobin meter is very handy, battery operated, easy to operate, require a drop of blood and giving result within 10 seconds. Dolphin haemoglobin meter is very useful in blood bank and for onsite screening of haemoglobin.

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