A Comparison of Oxygen Saturation Measurements Obtained from a 'Blue Sensor' with a Standard Sensor.

Mawson I.E., Dawson J.A., Donath S.M., Davis P.G. *J Paediatr Child Health.* 2011 Mar 30.

Introduction

The study aims to investigate pulse oximetry measurements from a 'blue' pulse oximeter sensor against measurements from a 'standard' pulse oximeter sensor in newly born infants.

Methods

Immediately after birth, both sensors were attached to the infant, one to each foot. SpO_2 measurements were recorded simultaneously from each sensor for 10 min. Agreement between pairs of SpO_2 measurements were calculated using Bland-Altman analysis.

Results

Thirty-one infants were studied. There was good correlation between simultaneous SpO_2 measurements from both sensors ($r^2 = 0.75$). However, the mean difference between 'blue' and 'standard' sensors was -1.6%, with wide 95% limits of agreement +18.4 to -21.6%. The range of mean difference between sensors from each infant ranged from -20 to +20.

Conclusion

The mean difference between the blue and standard sensor SpO2 measurements is not clinically important.