

Accuracy of Pulse Oximetry in Assessing Heart Rate of Infants in the Neonatal Intensive Care Unit.

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Introduction

To determine the accuracy of pulse oximetry measurement of heart rate in the neonatal intensive care unit.

Methods

Stable preterm infants were monitored with a pulse oximeter and an ECG. The displays of both monitors were captured on video. Heart rate data from both monitors, including measures of signal quality, were extracted and analyzed using Bland Altman plots.

Results

In 30 infants the mean (SD) difference between heart rate measured by pulse oximetry and electrocardiography was -0.4 (12) beats per minute. Accuracy was maintained when the signal quality or perfusion was low.

Conclusions

Pulse oximetry may provide a useful measurement of heart rate in the neonatal intensive care unit. Studies of this technique in the delivery room are indicated.