

## **Monitoring oxygen saturation and heart rate during neonatal transition. comparison between two different pulse oximeters and electrocardiography**

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**Objective:** To compare the efficacy and reliability of two pulse-oximeters (POx) (Masimo Radical-7 and Nellcor™ Oxymax Bedside) and evaluate the feasibility of routine ECG monitoring during delivery room transition.

**Study design:** Prospective observational comparative study. Sixty newborns were connected simultaneously to both POxs and ECG monitor (as a gold standard for HR). Times to achieve a stable signal were compared. Heart rates were compared to simultaneous ECG.

**Results:** A significant difference in times to stable signal was found: Mean, Median (Interquartile range) for Nellcor and Masimo, were 15, 8.5 (6-18) and 27, 12 (9-34) seconds, respectively. Compared to ECG, false bradycardia was displayed in 18 of 55 (35%) newborns by the Masimo POx and in no newborns by the Nellcor POx. Attaching the ECG monitor was feasible but consumed additional resources.

**Conclusions:** The time for achievement of a stable saturation reading in an uncomplicated resuscitation setting differed significantly between POxs.