

Randomised study comparing heart rate measurement in newly born infants using a monitor incorporating electrocardiogram and pulse oximeter versus pulse oximeter alone.

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Murphy MC, De Angelis L, McCarthy LK, O'Donnell CPF.

AIM: To determine whether IntelliVue (ECG plus Masimo pulse oximeter (PO)) measures heart rate (HR) in low-risk newborns more quickly than Nellcor PO (PO alone).

METHODS: Unmasked parallel group randomised (1:1) study.

RESULTS: We studied 100 infants, 47 randomised to IntelliVue, 53 to Nellcor. Time to first HR was shorter with IntelliVue ECG than Nellcor (median (IQR) 24 (19, 39) vs 48 (36, 69) s, $p < 0.001$). There was no difference in time to display both HR and SpO₂ (52 (47, 76) vs 48 (36, 69) s, $p = 0.507$). IntelliVue PO displayed initial bradycardia more often than the Nellcor (55% vs 6%). Infants monitored with IntelliVue were handled more frequently and for longer.

CONCLUSIONS: IntelliVue ECG displayed HR more quickly than Nellcor PO. IntelliVue PO often displayed initial bradycardia. Infants monitored with IntelliVue were handled more often. Study of ECG in high-risk infants is warranted.