

Cost Reduction Following Conversion to Masimo SET Pulse Oximetry - Experience in the Neonatal ICU.

Noblet T. *Respir Care* 2001 46(10): 1130.

Introduction

There are very few published studies that compare the costs of utilizing different pulse oximetry technologies even though patient monitoring represents significant hospital expenditure. Since adhesive sensor use represents the greatest recurring expense to utilizing pulse oximetry, Noblet compared the cost associated with using Criticare adhesive sensors (pre-conversion) to using Masimo SET adhesive sensors (post- conversion), in the 39 bed level III NICU at St Vincent Hospital in Indianapolis, IN.

Methods

A retrospective analysis was performed to determine if there was a difference in the number of sensors used per patient prior to the hospital's conversion from Criticare pulse oximetry to Masimo SET pulse oximetry. The number of sensors utilized per patient admission, the length of stay and the average number of patients, daily for a three month period prior to the conversion to Masimo SET pulse oximetry was compared to the sensors used per patient for the three months following the conversion. All patients admitted to the NICU were monitored with pulse oximetry during both periods.

Results

Sensor utilization per patient in the NICU pre and post conversion to Masimo SET Pulse Oximetry.

	# of Admissions	Average Daily # Patients	# of Sensors Used	# Sensors used per Admission	Sensor Longevity (days)
Criticare	213	32.7	544	2.6	4.8
 Masimo SET	265	38.1	400	1.5	11.5

Although the number of admission and the average daily census increased during the three month period following the conversion to Masimo SET, the total number of sensors used decreased. An NICU staff survey found that 83% thought that Masimo SET sensors were superior to the Criticare sensors and 96% reported that the Masimo sensors required less handling of patients to obtain reliable saturation readings.

Authors' Conclusions:

“Conversion to Masimo oximetry has resulted in a 58% reduction in sensor consumption in our NICU. Masimo sensors lasted 11.5 days, on average, which is approximately 2.4 times as long as the Criticare sensor. In our experience Masimo oximetry sensors significantly reduce the cost of oximetry monitoring. We attribute this to their increased durability and ease of acquiring initial oximetry readings.”