Pulse Oximetry: Could Wrist and Ankle Be Alternative Placement Sites?

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Abstract

Objective. To compare the accuracy of pulse oximetry oxygen saturation (SpO2) measured on the right wrist and right ankle in relation to the ipsilateral palm and sole, respectively. *Study Design*. A prospective observational study carried out on neonates and infants admitted to intensive care units. SpO2 was measured at the right palm and wrist and the right sole and ankle. Sensitivity and specificity tests were performed. *Results*. Ninety-four patients, mean postnatal age of 29.9 days, were included in our study. Sensitivity and specificity tests for right wrist SpO2 in comparison to right palm SpO2 revealed sensitivity of 100% and specificity of 80.4%. Sensitivity and specificity tests for right ankle SpO2 in comparison to right sole SpO2 revealed sensitivity of 100% and specificity of 77.4%.

Conclusion. The results of the current study revealed that the wrist and ankle can be alternative placement sites for

the measurement of SpO2 in newborn and infants instead of the routinely used palm or sole.

Keywords

pulse oximetry, oxygen saturation, wrist, ankle