

Neonatal and Pediatric Pulse Oximetry.

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Abstract

The pulse oximeter has become a vital instrument in the care of infants and children with cardiopulmonary disease. Recent advances in pulse oximetry technology have improved some aspects of pulse oximeter performance. However, the reliability, accuracy, and clinical utility of pulse oximetry remain problematic in some types of patients under certain conditions. Improved signal processing technology has substantially improved the ability of certain oximeters to work reliably under conditions of poor perfusion and motion artifact. There is a growing body of evidence describing the effect of pulse oximeter utilization on processes and outcomes. This article describes the principles, limitations, current state of oximetry technology, and the impact of oximetry data and alarms on diagnosis and clinical decision-making.