

Masimo Rad-57 Pulse CO-Oximeter for Noninvasive Carboxyhemoglobin Measurement.

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Abstract

Noninvasive methods of body fluid chemical measurement have been expanding. New technologies are enabling the quantification of different compounds in the blood and interstitial tissues. One example of this is the pulse oximeter, which has facilitated the measurement of oxyhemoglobin rapidly and reliably without the requirement of blood-draws. The Masimo Rad-57 Pulse CO-Oximeter expanded the capabilities of pulse-oximetry to include measurements of carboxyhemoglobin and methemoglobin. This innovation has revolutionized the paradigm for detection of patients with CO poisoning. Previously, clinicians relied on historical information and patient signs and symptoms pointing to the possibility of CO exposure or toxicity. Only then would a blood test be ordered to measure carboxyhemoglobin levels. Since the presentation of CO poisoning is nonspecific and overlaps with many other conditions, and since the presence of environmental CO is often unknown, the detection of this condition was only possible in cases where the presence of CO was obvious or where the symptoms were severe. We now know, from studies conducted using the Rad-57, the only US FDA-approved device for noninvasive measurement of SpCO, that there are a significant number of patients who experience CO exposure but are nonsymptomatic. The Rad-57 provides a clinical justification for screening in the healthcare setting to identify patients with significant CO exposure who would otherwise be undetected.