

Fire and Ice: Diagnosis of Carbon Monoxide Poisoning in a Remote Environment.
Crawford D.M., Hampson N.B. *Emerg Med J.* 2008 Apr;25(4):235-6.

Case Report

Following an explosion on board a British Navy submarine operating under the Polar ice cap, a 33-year-old sailor fought a fire without protective breathing apparatus. He was found confused, with soot about his nares. A suspected diagnosis of carbon monoxide (CO) poisoning was rapidly confirmed on site using a new non-invasive pulse CO-oximeter. Initial carboxyhaemoglobin (COHb) level was 28%. He was treated with high-flow oxygen and evacuated to a medical facility with hyperbaric oxygen treatment capability. Fifteen other crew members potentially exposed to smoke in the enclosed space were screened in less than 10 min and had normal COHb levels of 1-2%. This is the first case demonstrating the utility of pulse CO oximetry for diagnosing CO poisoning in remote environments. The information obtained allowed immediate delivery of appropriate on-site treatment and directed subsequent triage. The device was also shown to be effective for the rapid screening of numerous individuals. Not only does it have the potential to provide information that would otherwise be unobtainable in such a situation, but it could play an important role in mass casualty screening.